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Lengthening of Life

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THE energies of the medical profession are primarily directed toward lengthening of life. Yet, while a large part of our time and effort are directed in individual cases toward this end, we infrequently take stock of the end results in toto. We are satisfied to know in a vague way that there has been a great deal of progress made which may be partially due to our efforts and we have a smug feeling as a result of that knowledge. This participation in the credit is justified only in so far as we as physicians are able to apply the complex knowledge made available by the combined efforts of the entire profession. This entails continuous effort upon our part, an ability to change with the evolutionary changes which are taking place. We must diligently follow the avenues of interest most likely to arrive at the ultimate goal of continuing the lengthening of life.

Table I
EXPECTATION OF LIFE, YEARS (MALE)

	AGE				
	0	10	30	50	70
1901	48.23	50.59	34 88	20.76	9.03
1910	50.23	51.32	34.87	20 39	8.83
1920	54.05	52.82	36 47	21.37	9.09
1931	58.84	54.50	36.88	20.83	8.93

Inquiry reveals the rather surprising fact that until relatively recent times little was known of the average length of life, as statistics were exceedingly fragmentary and inaccurate. Such data as are available have led to the belief that the mean life expectancy in antiquity might rank with that of such countries as India today, i. e., between 20 and 30 years. Piersol and Bortz record that in the sixteenth century an infant had a life expectancy of 21 years. In the seventeenth century this had increased to 26 years. By the middle of the eighteenth century it was 34 years, and in the latter part of the nineteenth century it had extended upward to 40 years. Up until this time the progress had probably to do largely with a reduction in the hazards of obtaining a livelihood, and with an increasing sense of the value of human life and of individual rights. Then came the discoveries initiated by the new methods of science introduced by Pasteur. These opened up an entirely new field and progress was rapid. Life expectancy increased in the United States from about 40 in 1880 to 48.23 in 1901, to 58.84 years in 1930, and to 61.4 years in 1937.

Table II
LIFE EXPECTANCY (MALE AND FEMALE)

Age	1900-02	1933	No.	Percent
0	49 24	61.26	12.02	24.4
1	55.20	63.67	8.47	15.3
5	54.98	60.80	5.82	10.6
10	51.14	56.25	5.14	10.0
20	42.79	47.16	4.37	10.2
40	28.34	30.34	2.00	7.1
60	14.76	15.50	.74	5.0
90	2.95	3.09	.14	4.7

The fact that there is not much increase in expectancy after the age of 50 offers the challenge which I wish to emphasize. Although there are many more individuals reaching the age of 50 today, they apparently have no reason to expect to live longer than their grandfathers did. It seems obvious that most. if not almost all of the gain is directly due to reduction of infant mortality, and control of contagious diseases. This has been accomplished to a large extent, not by the medical profession as a whole, but by those men working in and through the public health departments, with the co-operation of the profession. Skill in the management of "surgical diseases" and improvement in diagnosis and treatment of the diseases of middle life must have influenced the life span to some extent. Improved nutrition and lessening of occupational hazards which have been accomplished in the past 50 years must have had their influence, but the problem is still to make it show in the lengthening of life of the average individual who is successful in reaching 50. The increase in automobile accidents cannot entirely account for the failure.

Table III
EXPECTATION OF LIFE AT BIRTH IN THE YEAR 1930

Country	Male	Female
New Zealand	65.0	67.9
United States	60.9	64.4
Holland	61.9	63.5
Denmark	60.9	62.6
Germany	59.8	62.6
Canada	59.0	60.7
England	58.7	62.6
Scotland	56.0	59.5
Austria	54.5	58.5
India	26.9	26.6

It is true that there are more individuals reaching the age of 100 years today than formerly, and there are authentic cases on record of individuals reaching 110, or more. The 1930 census listed 3,964 persons over 100 years, and of these 2,467 were negroes. It is certain that the stated age of these individuals must be discounted. If we say

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that there are one-half that number, then one person in 60,000 reached the 100-year mark. The record of Chris Jacobsen Drakenberg of Denmark has been widely quoted. He is said to have lived 146 years, to have been married at 111, and to have proposed again at 130, but was refused. Mrs. Mary L. Wood of Portland is said to have lived to 120 years. However, it is still true that the 100-year mark is not frequently passed. No revolutionary change in our knowledge has greatly affected the aging process.

Table IV
AGE AT WHICH A SPECIFIED PROPORTION OF THE POPULATION WOULD BE DEAD

Percentage Dead	Age (in years) 1901	1933
25	24	52
50	58	68
75	74	78

THE IMMEDIATE FUTURE

There has been little tendency for the *rate* of increase in life expectancy to decrease as yet, so an analysis of the ways in which this may be extended in the near future is of interest. A study of the distribution of deaths from specific conditions in the United States shows that from birth to 19 years influenza and pneumonia account for one-eighth of the deaths. It seems not too optimistic to predict that this figure can be reduced by half, by the use of the sulfanilamide derivatives. Accidents are responsible for one-tenth of the deaths in this age period and this figure should be capable of reduction. The degenerative diseases rank low in this age group. Two-thirds of the deaths are due to other causes, which can be greatly reduced. Improved diet and general hygiene should make inroads on mortality from gastro-intestinal disorders. Infectious diseases can be more effectively controlled.

From 20 to 39, one-fourth of the deaths result from accidents, one-sixth from tuberculosis. The death rate from the latter was 200 per 100,000 in 1900, and has been reduced to 53 per 100,000 in 1933, but there are still 70,000 deaths annually from tuberculosis. The mortality from this disease should be completely eliminated if present knowledge could be applied. Wyoming in 1934 achieved a rate of 18.5 per 100,000, and the rate in Iowa was 25 per 100,000. Accidents are important in this age group and must be reduced.

With each succeeding decade the number of cardio-renal-vascular disease deaths increases, and these seem at present to represent our irreducible mortality. No rules for lessening the degenerative lesions of blood vessels have greatly affected the condition.

The importance of these various diseases may be more clearly seen if we study the percentage of deaths they cause during various age periods. We find that at birth the chances of eventually dying of cardiovascular renal disease far exceeds all other causes, and accounts for 45% of the deaths. Only 4% will die of tuberculosis, 7.9% of accidents, and

Table V
CHANCES PER 1,000 IN 1930

Disease	Age 40	50	60
C-vas-Ren	539.4	566.1	598.5
Cancer	106.5	109.3	107.1
Accidents	60.3	52.4	45.3
Respir.	69.4	67.0	65.5
Tbc.	33.0	25.3	17.5
Diabetes	16.9	17.5	17.4
Others	174.5	162.4	148.7

the same percent of pneumonia and influenza; 1.4% will die of diabetes, and 24% from all other causes. With each decade there is a gradual increase in the percent dying from cardiovascular renal disease. There is a gradual fall in the deaths from accidents, influenza and pneumonia. After an initial rise, there is a decrease in the tuberculosis mortality. Cancer deaths increase to age 50, then fall slightly. Diabetes deaths remain practically stationary. There is a marked reduction in mortality from other causes.

Where can these mortality figures be further reduced? The present mortality rate in the first year of life is about 50 per 1,000. In New Zealand, this figure has already been reduced to half that number. This, therefore, is attainable in this country. The complete eradication of tuberculosis would result in extending life 1.1 years. A 50 percent reduction in mortality from accidents would extend life 1.5 years.

Dublin has constructed a possible mortality table which should be attainable. He assumes a reduction of mortality at age 1 of 10%, and for each succeeding year 0.25% to age 21, and assumes that this total of 15% mortality reduction is possible for all succeeding ages to 74. Then his reduction was decreased 1% to 79, after which the mortality is based upon that of white females in New Zealand and the United States in 1931 and 1930, respectively. This estimate seems to follow closely the trend of the past 50 years and gives an attainable average length of life of 75 years, with one-fourth of the population living to the age of 85 years.

A second table based upon these figures shows the trends in the age population of the United States and probable changes which will take place. The estimated birth rate in 1900 was 30 per 1,000, in 1915 it was 25 per 1,000, and at the present time 16 per 1,000. In 1930 we had fewer children under age 5 than at the previous census, and there were fewer children under 5 than there were in the next age group of 5 to 9. During the next 40 years this reduction in birth rate will result in a reduction in the number of individuals between 5 and 19, with approximately the same number surviving between 20 and 44, and a very marked increase in the number living after 45. More than twice as many will live beyond 65.

Professor Irving Fisher of Yale has pioneered the study of life expectancy. He believes the estimates of Dublin very conservative and considers that an increase in length of life should be accomplished not only in age groups up to 65 but in all age

groups. He gives excellent reasons for discarding the convenient century mark as the upper limit of life span. First, the rate of increase in mortality increases up to age 60 but remains constant from there to 85, and then actually declines. Second, the same improvement in environmental factors which increase the duration of the normal life expectancy should also increase the chances of life extension for those having the potentiality to pass the century mark. He believes the mortality rates are showing a decrease in the upper age groups. The fourth reason he gives is that there are quite a few authenticated cases of people who lived 105, 110 or 120 years. Another reason is that many tissue cells are apparently potentially immortal, e. g., Woodruff reported the paramecium's passing through 8,500 generations, the equivalent of 250,000 years of human life. The culture was going as well at the end as at the beginning. Tissue cultures are kept alive through many generations by removing the poisons generated by the life process, guarding against infection and providing nutriment. Following this line of reasoning leads to the conclusion that death may be held off indefinitely by "safeguarding against bullets, poisons and germs," and that it is a matter of "having the man built well to start with and well taken care of afterward."

PERTINENT INVESTIGATION

Now what more recent fields of scientific investigation have succeeded in bringing new facts to bear upon the problems of aging? Endocrine gland studies have yielded much of value. Carlson says, "Castration in early adult life has little influence upon the other endocrines, and there is no premature aging either physically or mentally." However, this is not the view of most clinicians and workers in this field. Allen and others observe that the uterus, mammary glands and vagina atrophy after oophorectomy and menopause. Psychic changes certainly do take place. Albright finds that there is an increase in the gonadotropic hormone of the pituitary in castrates. The essential aging change that accompanies reduction in ovarian activities of the genital and associated tistues. Neoplastic diseases and chronic infection become more likely in periods of decreasing gonadic activity. Attempts to maintain a constant flow of potent gonadal hormone in individuals have been unsuccessful, but now that the sex hormones have been synthesized in pure form we may be entering an entirely new era in investigation. Some universally applicable form of substitution therapy offers great hope of influencing the aging process. Aging people frequently have a reduction in basal metabolic rate. Should they be given thyroid therapy to the point of bringing the rate to normal? The rate of oxidation in the body is largely dependent upon the state of the skeletal muscles, which in the aging is that of markedly reduced tone. Can we improve upon these and similar compensating mechanisms?

Synthesis and accurate definition of the vitamin substances should lead to knowledge affecting the aging of the body. No one knows what the optimum vitamin assimilation for any of the vitamins is. It has been estimated that 300 units of vitamin B may be the daily requirement and that the average daily consumption today is less than half that amount. Holman gives large doses of all vitamins, particularly vitamin C before surgical procedures. What should be the daily consumption of these substances in health? Observers report a reduction of the normal agglutinins of the body in the aged. These resistance factors may be more measurable as time goes on and the ability of the body to produce antibodies may be favorably affected.

The relation between the amount of acid in the stomach and the length of life is not known. Certainly there is a tendency toward decrease in gastric acidity in advancing years. Achlorhydria was found by Dedichen to be present in 66 percent of 99 individuals between the ages of 67 and 90, unassociated with disease. Others report similar findings, and the belief seems to be that there is accompanying this a more rapid emptying of the stomach, in spite of a decrease in motility of the gastro-intestinal tract.

At a time well within the remembrance of those present, the practice of pediatrics as a specialty was not generally recognized by physicians. At the present time it is accepted by most of the profession. Geriatrics may come to assume special aspects not well understood by the general medical men. More interest is being focused upon this subject which assumes broader aspects with the increasing age of the population.

SUMMARY

In summary, barring world catastrophe, lengthening of life will proceed because of avoidance of some of the infections of early life, with the attendant often unrecognized damage to organs and tissues, because of rapidly increasing understanding of endocrine function and influence, because of new important knowledge of nutrition, resistance, chemical balance, and because of improving physical conditions of life. Particularly we must have an increasing appreciation of older age psychology by the young, and an acquisition of a younger age psychology on the part of the aging.

Professional Bldg.

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Management of the Anemias

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IN THE last 15 years remarkable advances have been made in the treatment of the anemias. Liver therapy has been introduced and many refinements been made for its administration. A considerable amount of work has been done on various phases of treatment with iron. The indications for transfusion have been better understood. The value of diet therapy including the vitamins is gradually becoming more clear. While much remains to be done, a summary of the generally accepted ideas regarding the treatment of anemias might be attempted at this time.

In practice, when confronted with an anemia, intelligent treatment might be aided by trying to place the anemias in one of the following four etiological categories:

1. Posthemorrhagic anemias.
2. Hemolytic anemias (blood destruction).
3. Aregeneratory anemias (bone marrow depression).
4. Nutritional deficiencies.

The inadequacy and the overlapping features of the above condensed classification is appreciated. In spite of the rule that "nature abhors classification," some framework must be constructed in order to deal with this problem of the anemias. The hematologist is in addition concerned with various combinations of normocytic, macrocytic or microcytic anemias with normochromic, hyperchromic or hypochromic variations.

POST-HEMORRHAGIC ANEMIA

Anemias with a low color index should first be suspected as being due to acute or chronic hemorrhage. Where the cause of bleeding is not obvious menorrhagia or metrorrhagia must be considered. Treatment of this type of anemia may include the use of endocrines, x-ray therapy or surgery.

The gastrointestinal tract should be considered a prime source of anemia from acute or chronic hemorrhage. If bleeding from this source is not obvious the simple benzidine test of the stools should be made, repeated if necessary, to determine whether or not blood is being lost from the gastrointestinal tract. This easily performed test will frequently give a good lead for further gastrointestinal investigation.

Massive acute gastrointestinal hemorrhage is usually from peptic ulcers. In the treatment of this condition the Meulengracht treatment should be emphasized. It consists in feeding these bleeding ulcer patients liberally with a soft diet instead of starving them. The immediate and subsequent effects of this treatment are most satisfactory.

In general, the treatment for these post-hemorrhagic anemias in addition to stopping the flow of blood, is to replace the blood volume in cases of shock with intravenous normal saline, 5 or 10% glucose, or 6% acacia, until a blood transfusion can be done. Even without shock, if the bleeding has been severe, blood transfusions aid considerably in reducing the convalescent period of the patient. Iron therapy in large oral dosage with a generous diet, particularly with whole liver, aid most in curing this anemia. Murphy,[1] with practically unanimous support of hematologists, decries the use of liver extract by mouth in this condtion, but he personally advocates several injections of liver extract in the first few weeks of treatment.

Blood destruction in the hemolytic anemias may be so severe as to cause such excessive breaking down of the hemoglobin that the resulting increase in bile pigment brings about a jaundice. This is present in severe infections, such as those resulting from the hemolytic streptococcus or in B. Welchii sepsis. Malaria may be responsible for it.

HEMOLYTIC ANEMIA

Acute hemolytic anemia is infrequently seen in cases treated with heavy doses of sulfanilamide. In this instance, in spite of careful observation with frequent blood counts, the anemia develops rather suddenly. One day the patient is doing very well and the next day he may be very pale. Rarely other chemicals may be responsible for this type of anemia, notably benzol and methyl chloride.

When the history and the clinical condition does not suggest the diagnosis, a study of the anemic patient should reveal in these cases a high reticulocyte count, a high icterus index, and an indirect van den Bergh reaction.

The treatment is largely a matter of controlling the etiological factor plus transfusion if the anemia is severe. The milder cases respond to a generous diet and iron therapy.

In the rare familial chronic hemolytic anemia or chronic hemolytic jaundice, the diagnosis should be made very definitely, for splenectomy effects a cure in the typical cases but not in the atypical cases. The typical cases are characterized by a chronic low-grade jaundice with moderate splenomegaly, a marked reticulocytosis, a spherical microcytosis, an increased fragility of the red blood cells, an indirect van den Bergh and an increased icterus index. Other rare hemolytic anemias will not be discussed here.

AREGENERATORY ANEMIA

Anemias due to bone marrow depression or aregeneratory anemias are all uncommon and include characteristically such diseases as aplastic anemia, sickle cell anemias, myelophthisic anemias and anemias secondary to heavy metal intoxications. Less characteristically aregeneratory anemias include splenic anemia (Banti's disease), and anemias due to chronic sepsis, myxedema, Addison's disease and nitrogen retention.

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In aplastic anemia both the red and white cells are markedly depressed and gradually disappear because of the complete aplasia of the hematopoietic tissue in the bone marrow. Unless a toxic cause can be found and eliminated the prognosis is bad although life may be prolonged by blood transfusions.

Sickle cell anemia is a rare, slowly fatal, hereditary anemia of unknown cause, occurring almost always in young negroes. Myelophthisic anemias are aplastic anemias resulting from a crowding out of the bone marrow by other cells such as metastatic malignant cells. Arsenic and bismuth may cause a depression of bone marrow sufficient to cause an anemia. Myxedema may be associated with an anemia simulating pernicious anemia, which is controlled by thyroid therapy. A similar situation is found in Addison's disease and the anemia is helped by administration of the adrenal cortical hormones. Anemia with low basal metabolism without clinical hypothyroidism is not aided by thyroid therapy. Chronic sepsis, such as is found in tuberculosis, and nitrogen retention such as is found in chronic glomerulonephritis may be responsible for more or less severe anemia. The treatment is largely a matter of controlling the disease and providing a generous diet.

NUTRITIONAL DEFICIENCY ANEMIA

The nutritional deficiency group of anemias, from the standpoint of frequency and efficacy of treatment, is by far the most important. It includes under its heading the iron deficiencies and the pernicious anemia groups.

Mention should be made here of the effects of vitamins on the anemias. Vitamin C deficiency, with resulting scurvy, may be accompanied by an anemia that is usually mild. This deficiency occurs more frequently in children. Older adults who are on a diet such as the Sippy regime may have this as a factor, particularly when it is associated with hemorrhage. Six ounces of orange juice or 100 mg. of cevitamic acid daily quickly control this condition. Vitamin B has been particularly suggested as an aid in the treatment of anemias. Except as it may aid in increasing the appetite of the patient by improving the absorption from the gastrointestinal tract, it has no proven place in anti-anemic therapy. Patients with any anemia eating a well-balanced diet get all the vitamins they need for their anemia.

Iron deficiency anemias need iron. Ordinarily only 17 to 18 mg. of iron is necessary daily, but often absorption difficulties interfere with the proper intake of iron. The diagnosis of iron deficiency is made on the basis of an anemia with a low color index with an understanding of the factors of hemorrhage, or factors leading to bone marrow depression or hemolysis. Pernicious anemia must be definitely ruled out. With a hypochromic type of anemia iron therapy is always in order.

Treatment with iron therapy consists in supplying an adequate amount of iron. Hypodermic medication is rarely necessary, and because of the necessarily small dosage that can be given it is comparatively ineffective. Gastrointestinal irritation with the soluble salts is usually not marked, but it is well to begin with a smaller dosage and increase to optimal or maximum dosage.

The trend in iron therapy is toward large oral doses of the soluble iron preparations. Ferrous sulphate 5 to 10 grains three times daily is a very satisfactory way of giving iron. Iron and ammonium citrate in a 25% solution in a half glass of water or milk in doses of one to two teaspoonfuls three times daily (45 to 90 grains daily) is a favorite. Blaud's Mass in 30 to 90 grains daily is commonly suggested. Murphy[2] states that 45 grains daily of any one of the above mentioned salts will give an optimal result from iron therapy. He is not convinced that smaller doses of ferrous sulphate are comparatively more effective. The addition of copper to the therapy is clinically unnecessary.

Arsenic and strychnine have no place in anemia therapy for any effect they may be supposed to have on the bone marrow. There are no known stimulants to the bone marrow. The best one can do is to supply necessary food or hematopoietic factors.

Transfusion may be indicated in any severe anemia, particularly preoperatively where time is an element. Either the direct or the citrated blood may be used. There is no convincing evidence that citrated blood is contraindicated in hemorrhagic cases.

A word should be said about liver therapy in hypochromic anemias. Whole liver in 240 gm. (½ lb.) daily doses is one way of treating secondary anemias. The value is chiefly due to the iron content of the liver. Liver extracts are practically valueless in hypochromic anemias. The present practice of using liver and iron capsules to correct secondary anemias is to be deprecated. As hematologists generally deprecate this liver and iron mixture, the only reason for its present popularity is that the doctors have failed to differentiate the pernicious anemia cases from iron deficiency anemia, so both liver and iron are given. If it were not for the fact that the cheap iron therapy is what is commonly needed and not the expensive liver extract therapy, this "shot-gun" mixture might more easily be condoned. Nor is the touted vitamin B content of the mixture of any definite antianemic value. If it helps at all it apparently does so through its effect on the appetite and on the absorption factor in the small intestines.

PERNICIOUS ANEMIA

The reason for the value of liver extract in pernicious anemia and its lack of value in hypochromic anemias is obvious when one considers the underlying pathology in the case of pernicious anemia. Castle's[3] work has shown that in pernicious anemia there is a lack of an intrinsic factor in the stomach which ordinarily combines with an extrinsic food

factor to form a red blood cell maturing factor, the so-called hematopoietic factor, which is utilized by the body or stored in the liver. Pernicious anemia cases in relapse cannot form this red blood cell maturing factor and therefore the cells in the bone marrow become large and hyperchromic and are with difficulty matured and released. This condition is entirely lacking in hypochromic microcytic anemias and the addition of it cannot therefore be of any value in treatment of these "secondary anemias." In pernicious anemia, however, the hematopoietic factor in the liver extract enables the red blood cells to mature normally and the anemia is corrected.

It is this fundamental difference between pernicious and other anemias that makes it necessary to diagnose pernicious anemia correctly. Not only does it help one to decide when to use liver extract and when not to, but one must counsel the pernicious anemia patient that they will always have pernicious anemia and should require continued care and treatment. Clinically the diagnosis of pernicious anemia is suspected in any middle-aged or elderly patient complaining of weakness, sore mouth or tongue, intermittent diarrhea, persistent numbness and tingling of the hands or feet and clumsy gait.

Physical examination may disclose pallor, a glossitis, hyperactive deep reflexes, a diminished vibratory or joint sense in the extremities, a spastic, atoxic gait, with perhaps a breast-band anesthesia and positive Babinskis.

Laboratory work should disclose a macrocytic, hyperchromic anemia, with a leucopenia and an achlorhydria after histamine. A confirmatory marked reticulocytosis a few days to a week after liver therapy is started is helpful.

X-ray examinations of the stomach should be made routinely to rule out cancer of the stomach which will often simulate the pernicious anemia picture clinically and by its initial response to liver extract therapy. This diagnosis should be particularly suspected when there is no leucopenia.

Treatment consists in giving adequate liver therapy. This is more cheaply and effectively given by intramuscular injections than any other way. Obtain a liver extract of high potency (at least 10 units per c.c.) and give 30 units a week until the blood count is normal or above. Then give a maintenance dose of one unit daily. One c.c. of liver extract containing 15 units per c.c. ordinarily is enough to control the patient for a two weeks' interval or more.

A generous diet should be stressed. Temporary iron therapy may be helpful if the anemia has been severe and the blood picture has become hypochromic. Dilute hydrochloric acid may be helpful symptomatically for gastro-intestinal difficulties, but is usually not necessary. Blood transfusions are rarely necessary and should be avoided unless an emergency in the patient's clinical condition exists.

GENERAL COMMENT

There are other rare macrocytic anemias when liver therapy may be helpful in large doses. These conditions exist when the red-blood cell maturing factor is not absorbed from the gastrointestinal tract as is found at time in sprue and occasionally in pellagra. Liver therapy may also help in those rare cases where the liver is so badly damaged that it cannot store the hematopoietic factor. Conditions like this may occur occasionally in pregnancy, but usually routine iron therapy alone should be given during pregnancy to offset the common physiological and pathological anemia in that condition.

To summarize this matter we might say that in the good old days we had merely primary, i. e., macrocytic, hyperchromic and secondary (usually microcytic, hypochromic) anemias about which to concern ourselves. In sweeping generalities it might be said that one could keep up with the times fairly satisfactorily if one would as rigidly as possible separate the primary from the secondary types of anemia and give the former adequate liver therapy, preferably hypodermically and the latter heavy doses of iron orally, supplemented by a generous, balanced diet in both instances.

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Physiological Biliary Flush in the Management of Biliary Tract Disease

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BILIARY stasis, whether partial or complete, is probably the most common cause of indigestion. It is well known that stasis within the urinary tract, whether due to spasm of the sphincter area, atony or a mechanical block, demands release of the obstructing agent, and since infection or chemical inflammation is usually present, flushing out or irrigation plays an important part as a therapeutic measure. In the genitourinary tract, irrigations are frequently and adequately used, but the physiological flush—forcing fluids to increase urinary output—is probably of greater value. That stasis similarly exists in the biliary tract has long been realized. Such terms as "sluggish liver" and "bile stasis" have been infrequently heard, and rather feeble attempts have been made to increase

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the flow of bile into the duodenum. Probably the administration of bile salts has been used more empirically as an aid to digestion and relieving constipation than for actually increasing the flow of bile and relieving biliary stasis. The amount and method of giving the bile salts undoubtedly did not result in much of an increase in bile flow, certainly not sufficient to give a flushing-out effect. The procedure of Meltzer and of Lyon in administering magnesium sulphate to the duodenal mucosa by means of a tube causes relaxation of the sphincter of Oddi at the lower end of the common duct so that bile will pass easily into the duodenum. Thus when bile stasis was present, either with or without infection or inflammation, the patient has not so infrequently felt somewhat improved for varying periods of time. One could not call this a true flushing effect but rather more of a releasing phenomenon.

PRELIMINARY COMMENT

Our attention was first attracted to the stasis of bile during our work in visualizing the biliary tract at the operating room table by injecting an opaque medium into the common duct and immediately taking an x-ray—immediate cholangiography—and through our established rule of always injecting an opaque medium into the common duct when a T-tube or catheter was placed in the duct for drainage purposes or when a biliary fistula was present—delayed cholangiography.[1] Not infrequently the x-ray would reveal a distended common duct with marked dilatation of the biliary radicles in the liver. At times stones, mucous plugs or blood clots were the obstructing agents; again, spasm of the lower end of the common duct—spastic biliary dyssynergia—gave rise to the obstruction with the resulting stasis of bile and dilatation of the bile ducts. Another interesting fact is that for many years surgeons have opened the common duct at a primary or secondary operation because of jaundice or chills and fever and have found no obstructing agent such as a stone but only thick, inspissated bile within the common duct. After draining the common duct by means of a T-tube the condition would clear up. It might be concluded that in such cases spasm or some small obstructing agent prevented easy egress of bile through the lower end of the common duct and that infection or inflammation followed and the bile became thick and inspissated, thus completing the vicious circle. The formation of stones is encouraged by such conditions and the presence of the small stones or thick bile probably precipitates many cases of biliary colic.

For some years, irrigation of the common duct with warm saline has been advocated in all cases where a T-tube or catheter has been placed within the duct, and those who have taken cholangiograms before the irrigation and repeated them after the irrigation have occasionally been surprised to find that the filling defect in the common duct has disappeared. I have had that occur on a number of occasions. The defect may have been a stone, a blood clot or a collection of inspissated bile or mucous.

It seemed logical that if the flow of bile and the intraductal bile pressure could be increased, a flushing effect of the biliary ducts would be attained, provided that there was free exit at the lower end of the common duct.

Neubauer in 1925 reported that sodium dehydrocholate, the sodium salt of dehydrocholic acid, effected an increased secreton of bile in animals and human beings. In bringing about this "increased secretion of bile," the constituents of the bile secreted must be considered, and this subject has been well presented by Schmidt, Beazell, Atkinson and Ivy in a recent publication in the American Journal of Digestive Diseases and Nutrition. Briefly, the drugs which increase the flow of bile along with the normal or increased amounts of biliary constituents are called "choleretics." These are the conjugated bile acid preparations and Bilron and Dechacid fall in this group. Those drugs which chiefly increase the aqueous fraction of bile are hydrcholeretics, the oxidized unconjugated preparations, and to this group belong Decholin, Procholon and Ketochol. Our experiments were carried out with Decholin and Procholon principally, and since it had already been established that these drugs did increase the bile flow we were interested in determining whether there was an accompanying rise in intraductal pressure. A water manometer was attached to a T-tube in the common duct and the control level for each patient recorded. It was found that the dehydrocholic acid products (Decholin and Procholon) given by mouth in substantial doses, increased the intraductal pressure level by 25 to 75%. After three to five days the pressure usually showed a tendency to return to normal, but following several days rest from the drug, it could again be administered with the same effect of increasing intraductal pressure. The sodium salt of dehydrocholic acid given intravenously resulted in a sudden rise in intraductal pressure which, however, was sustained for only a very short time.

To effectively flush out the biliary tract, it would be necesssary to relax the sphincter of Oddi, and since no one drug seems to have a constant effect on the sphincter area, under any and all circumstances, a combination of all methods of relaxing the sphincter has been used.

Atropine has long served as an antispasmodic, yet it cannot be depended upon to relax the choledochal sphincter in a very large percentage of cases; neither can it be said that it never has a relaxing effect on this muscle. Nitroglycerin has certainly held a prominent place as an antispasmodic and in our early work with cholangiography we found that it very frequently relaxed the choledochal sphincter area and permitted easy egress of the contrast medium into the duodenum. Magnesium sulphate or such concentrated fats as olive oil or pure cream, in direct contact with the duodenum and choledochal sphincter, have long been known to permit an influx of bile into the duo-

denum. With all of these factors in mind, a three-day regime has been worked out by which we have been able to prove on cholangiograms that increased bile flow and bile pressure have on numerous occasions caused foreign bodies such as stones, mucous plugs, blood clots and collections of inspissated bile to be flushed out of the common duct through the relaxed sphincter area. We have on a number of occasions identified stones in the cholangiograms and later recovered these from the stool. If the stone is too large, however, it cannot be forced through the sphincter area.

PRESENT METHODS

The following three-day regime has been instituted postoperatively in cases where the cholangiogram identifies a filling defect in the common duct. On the first day a 1/100 grain tablet of nitroglycerin is dissolved under the tongue three times during the day; on the second, 1/100 grain of atropine is given three times, either by mouth or hypodermically; on the third day, the nitroglycerin is repeated. Each morning the patient is given two drams or more of magnesium sulphate in warm water. Before the evening meal and at bedtime, one ounce of olive oil or pure cream is given. The common duct is gently irrigated every day through the drainage tube or fistula with warm normal saline solution, and after as much of this solution as possible is removed with the syringe and by permitting the tube to drain for five minutes, 10 to 30 cc. of warm sterile olive oil are instilled. At times, lipoiodine or lipiodol seems to exert a beneficial effect. If the patient does not complain of distress, the tube should be clamped off during the course of treatment except for one hour after each instillation of oil. To increase and maintain the rise in bile flow and intraductal pressure, three Decholin or Procholon tablets (3¾ grain) are given after each meal and at bedtim.

This treatment may be repeated after several days rest, and in our experience it has on some occasions taken several attempts before the foreign substance has been entirely dislodged. The treatment may prove rather exhausting at times, and caution must be exercised in administering it repeatedly to a weak and ill patient.

VALUE OF PROCEDURE

With the flushing out and removal of obstructing agents within the common duct definitely revealed by cholangiography and presented by these lantern slides, the desirability of providing a routine biliary flush postoperatively in every case of biliary tract surgery can easily be appreciated. For about two years this has been carried out and we feel sure that our percentage of unsatisfactory results in biliary tract surgery has greatly decreased. Also cases previously operated that still present symptoms referable to the biliary tract have been placed on this regime with most encouraging results. In some instances it is necesary that the patient repeat the biliary flush every month or so to prevent the onset of a biliary attack. With many satisfactory and encouraging results from this management of the postoperative phase of biliary tract disease, the biliary flush regime has for some time constituted the medical management of biliary tract disease where the gallbladder has not been removed. If infection or inflammation is the factor, with chronic indigestion of bile tract origin, then flushing out the thick, inspissated bile, small stones, collections of mucus, etc., should prove beneficial. Of course, if the common duct is the seat of pathology, and probably it is many times secondary to the gallbladder, the improvement following a flush is easily explained. However, if the gallbladder itself is the site of the trouble, it would be necessary that more bile, and particularly a thin type of bile, should enter and leave the gallbladder through a patent cystic duct, thus affording an irrigation of the biliary tract. Much to our surprise, this has proved a valuable adjunct to the medical management of biliary tract disease.

As to contraindications to this treatment, if there is complete obstruction of the common duct, this regime must not be considered for building up of pressure within the liver could easily result in liver cell damage.

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DISCUSSION

Dr. George B. Kent, Denver, Colo.: Any procedure which will make for a better end result in cases of disease of tne biliary tract is welcomed by the profession at large and especially by the surgeon. Biliary flush, as described by Dr. Best, will, no doubt, reduce the percentage of poor end results.

Other improvements and refinements in our methods of diagnosis and treatment of biliary disease will no doubt make their appearance from time to time. Drs. E. C. Hanssen and Imperatori of New York have for some years been working with a duodenoscope which they have perfected. By the use of an attached telescope they have been able to catheterize the common duct. They accomplish this by having the patient swallow a string until one end comes out of the anus. Then by tension on both ends of the string the duodenum is pulled nearer the midline, so that, with the string as a guide, a straight instrument can be passed through the stomach into the duodenum. Once the papilla is visualized, a metal tube, which is built into the instrument, is projected and manipulated into the common duct. No flexible catheter is used. I gathered this information from Dr. Henry Buchtel of Denver, who showed me the personal communication from Dr. Hanssen. Dr. Hanssen states that his work is still experimental, but he says the outlook is very encouraging.

All improved methods of diagnosis in disease of the biliary tract should be evaluated and used if they stand the test of time. Once a definite diagnosis is made, I believe that early and thorough surgery will produce the best end results. In most cases the end result is good, providing the source of infection is removed at the time of the primary operation; that is, the diseased gallblalder and stones in the ducts. After extensive infection has taken place in the liver and pancreas one must not hope for a complete cure, for too much change has already taken place in the secretory power of the liver and pancreas to effect a complete cure. Digestion cannot take place normally.

However, we must do the best we can in relieving any patient who presents himself with disease of the biliary tract. It is in those cases of chronic

hepatitis and pancreatitis, caused originally by infection of the gallbladder and ducts, that the most benefit will be obtained by increasing the bile flow and in so doing flush the biliary tract.

A word of warning should be given in regard to the direct manual irrigation of the ducts. It seems to me that irrigation with saline would be just as likely to carry infection retrograde into the liver radicals as it would to flow downward into the duodenum. The pressure would be the same on the two arms of the T-tube. Infection might be carried into the liver, causing any degree of damage up to abscess formation. There could hardly be any criticism of stimulating the bile flow by one way or another, thereby thinning the bile and flushing the ducts. The only contraindication would be complete obstruction of the common duct due to stone or new growth, as Dr. Best has mentioned.

I know we all will benefit from Dr. Best's paper and will use his postoperative regimen following operations upon the gallbladder and ducts, but we must not forget to include the greatest and safest stimulant of bile flow—water. Plenty of fluids should be given orally, when tolerated, or parenterally when nausea or vomiting is present. The patient should be taught to form a habit of drinking from 2,000 to 3,000 c.c. of fluids daily.

One might be tempted to use the method outlined by Dr. Best as a medical procedure, but until we are able to remove stones and infection of the gallbladder and ducts by any medical regimen it is best that we advise these patients to seek surgery early in the course of the disease.

Multiple Sclerosis

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MULTIPLE sclerosis has been variously called disseminated or insular sclerosis to indicate the scattered nature of the process in the central nervous system. Most textbooks on medicine class it as a chronic disease.[2,3] However, Foster Kennedy in the latest edition of Cecil's Medicine[1] leaves out the word chronic and defines multiple sclerosis as a "diffuse, disseminated, structural disease essentially of the central nervous system, characterized by a degeneration in multiple areas, which leads to widely diversified symptoms, often of a *transient* character, involving chiefly the motor system."

Recently Putnam[4] has pointed out that "the textbook picture of the course of multiple sclerosis is founded on late chronic involvement, but with modern methods of diagnosis, earlier and more benign forms are recognized." He states[5] that "in modern practice the atypical forms appear to be more common than the "classic" ones, and the diagnosis is accordingly made with increasing frequency."

Multiple sclerosis was considered something of a curiosity even by Charcot. Most of the articles written about it in the last century dealt with 1 case, or with a small number at most. With the decline of the incidence of neurosyphilis and the progress of refinements in diagnosis it is rapidly coming to be known in many parts of the world as the commonest disease of the nervous system after epilepsy and the senile cerebral diseases. Von Hoesslin collected the records of 516 cases from the hospitals of Munich. The Multiple Sclerosis Commission of the American Neurological Association is reviewing the histories of over 500 cases. A comparison with other well known diseases is of interest: at the Boston City Hospital, in the five years from 1931 to 1935, the diagnosis of subacute bacterial endocarditis was verified in 50 cases; the diagnosis of poliomyelitis was made in 101 new cases, and the diagnosis of multiple sclerosis was made in 203 cases. Yet the natural history of poliomyelitis is familiar even to the laity, and enormous sums are expended on its study, while even among medical men multiple sclerosis is often referred to as a "rare and mysterious" disease, which deserves no more than passing interest.

Kennedy[1] states that "multiple sclerosis is one of the commonest organic diseases of the nervous system, and by some observers has been regarded as even more prevalent than syphilis. Further statistics should be obtained."

The cause of the disease is unknown. Infections, thermal influences, traumatism, and intoxication by lead, arsenic and the like have been regarded as possible etiological factors. The disease has been attributed to various micro-organisms, but no substantial evidence has been presented in support of them.

Pathologically areas of degeneration occur mainly perivascular, variable in size and often sharply circumscribed. There is myelin destruction, but frequently the conducting axon is preserved and after the subsidence of the acute edematous lesion function is restored. Hence the tendency of the disease to show frequent remissions.

Charcot's classical triad of symptoms—nystagmus, scanning speech and intention tremor—are quite inconstant and not necessary for diagnosis. When they do appear the conclusion is final and definite, but even Charcot himself, 30 years after his original paper on the subject, pointed out that many cases exist in which the "triad" of symptoms are not found.

DIAGNOSIS AND TREATMENT

Upon what can a diagnosis of multiple sclerosis be based? As has been mentioned the underlying pathology is a degenerative process affecting widely scattered areas of the central nervous system. Clinically we find a multiplicity of symptoms, defying a definitely localized lesion. Usually since the motor tracts in the cord and brain are so widespread there is involvement of the muscular system, giving some form of spasticity with increased tendon reflexes, muscular weakness, and frequently

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bladder or speech disturbance. Seldom is sensory disturbance found.

If, then, we have a patient with symptoms and signs referable to widely scattered areas in the cord and brain, with no acute infection, a tendency to remission, spacticity, weakness, and possibly mental symptoms or emotionalism, we certainly should think of multiple sclerosis. If the tests for syphilis are negative and the spinal fluid shows a paretic curve or other minor changes in cell count, or if any of the "triad" of classic signs (nystagmus, speech difficulties, or intention tremor) are present, the diagnosis would seem to be fairly well established.

The big difficulty in diagnosis is that with such a diversity of findings the disease is apt to be mistaken for some other functional or organic disease, and if one is not on the alert for such a condition it may go undiagnosed for a number of years or be missed entirely.

A recent tabulation[1] gives the following signs in their order of diagnostic importance: fatigue, increase of deep reflexes, nystagmus, atoxic tremor of upper extremities and head, loss of abdominal reflexes, disordered gait and station, disturbances of speech (often scanning), pallor of the optic discs on the temporal sides, uncontrolled emotionalism, remissions, transitory palsies of ocular nerves, vague sensory disorders, vesical difficulties, and mental changes.

Treatment has been varied but since the disease is characterized by remissions, any treatment may at times seem beneficial. The proof of the treatment probably should be whether or not it will prevent a relapse, not whether it will aid a remission. Since trauma, heat, cold, infections, pregnancy, over-exertion, fatigue, etc., seem to predispose to recurrences these should be avoided.

Vitamine therapy, forced spinal drainage, fever therapy, arsphenamine, typhoid vaccine, quinine, amphetamine (benzedrine), x-ray therapy and various other medications have been used with variable results. Surgical treatment, or natural subsidence of infections of various sorts (sinusitis, infected teeth, furuncles, etc.) has been followed by improvement in the patient's condition.

The Harvard Multiple Sclerosis Fund has been used recently for the purpose of systematically and critically reviewing the theories of pathogenesis of the disease and an attempt has been made to compare the development of its lesions with pathologic processes of known origin hoping thereby to obtain a better knowledge of the cause of the disease and hence some satisfactory method of treating the condition.

They have elicited the hypothesis that the origin of the disease may be due to a thrombosis of small vessels in the nervous system, and have been experimenting with the prevention of relapses by the use of certain anticoagulants such as cysteine, heparin, "germanin," and certain dyes. As yet no final results have been obtained and so the treatment of multiple sclerosis remains on an empiric and experimental basis today.

CASE REPORTS

Case 1. A 30-year-old male chemist was first seen by me in November, 1937, having developed incoordination of the left leg following a very slight twisting of the knee in 1930. There was gradual progression to the right hand so that in 1934 he could not properly control a pen when attempting to write. Heaviness in the right leg and stiffness in the right arm had been present for about one month and he had several times let a glass slip from his hand. Hearing was diminished in both ears, more so in the left, following an otitis-media one year previously. He was allergic to ragweed, eggs and certain chemicals. Sexual powers were greatly reduced, and he noted some decrease of bladder control.

Examination reveals a thin, undernourished white young male who walks with a spastic gait, quite intelligent but introspective. Temperature 97.8, pulse 68, B. P. 104/60. Examination and fluoroscopy of heart and lungs, negative. Deep tendon reflexes hyperactive, abdominal reflexes absent, slight nystagmus, slight speech difficulty. Romberg test showed considerable wavering. Sensation to light touch and pin prick present.

Laboratory Examination:

Blood—Red count, 5,120,000; hemoglobin, 90%; white count, 7,100 with 74% polyp; 24% lymph, and 2% monocytes. Sedimentation rate (Westergren), 2 mm. in one hour. Wassermann test, negative.

Urinalysis—Alkaline 1024, albumen and sugar negative; occasional epithelial cell; no casts nor blood cells; 1-3 pus cells; amorphous phosphates.

Gastric Analysis—(Ewald meal) Free HCl 37; total acidity 69; occult blood negative.

Spinal Fluid—No increase in pressure; clear, moderate increase in globulin; glucose 100 mgm/100 cc; chlorides 730 mgm/100 cc; Wasserman reaction (icebox fixation) negative; colloidal gold 5-4-4-3-3-2-1-0-0-0 (paretic curve).

Diagnosis: Multiple sclerosis.

Treatment: Maintain general healthy living and dietary conditions, avoid overwork, possibly try arsenic in small doses by mouth, fever therapy, typhoid vaccine intravenously or quinine by mouth.

Course: Patient went east shortly afterward, but I have recently been informed that he continues his duties as chemist.

Case 2. A 22-year-old Irishman slipped backward, bumping his back and head, in July, 1938. In September, 1938, when I first saw him, he denied any previous illness or injuries, but stated since July he had recurring periods of weakness, nervousness, difficulty in walking, speech difficulty, loss of weight (34 lbs. in 2 months) and urinary difficulty. He had been in a hospital on several occasions with improvement only to be followed by a remission and gradual progression of symptoms.

Examination showed generalized muscular spasticity, particularly in left leg, with considerable difficulty in walking.

Temperature—99.2; pulse 90; B. P. 140/90.

Eyes—Pupils react to light and accommodation, slight nystagmus.

Heart, lungs and *abdomen* grossly negative.

Hands—Tremulous and intention tremor made it quite difficult for him to write legibly.

Tendon reflexes active, abdominals diminished.

Babinski and *Romberg* negative, moderate bilateral ankle clonus.

Sensation normal to light touch, pin prick, heat and cold.

Laboratory Examination:

Blood—Red count 5,570,000; hemoglobin 100%; white count 9,300; 68% polyp; 30% lymph; 2% monocytes. Wassermann and Kahn tests negative.

Urinalysis—Acid, 1.019, albumen and sugar negative, no casts nor blood cells; rare pus cell.

Spinal Fluid—Clear, slight increase in pressure, Queckenstedt normal, no cells, slight increase in globulin, chlorides 720 mgm/100 cc; glucose 77 mgm/100 cc.

Wassermann reactions negative, and *colloidal gold* showed no color change.

X-rays—Lumbar spine, sacro-iliac and skull negative.

Diagnosis: Multiple sclerosis.

Treatment: Bed rest with graduated exercise as seemed advisable, large doses of thiamine chloride (vitamine B_1) (10 mg-3000 IU) intravenously each day.

Course: Became progressively worse until several months later he was bedridden. At present he contiuues to spend most of his time in bed although at times is able to get up and about with the aid of crutches.

Case 3. A 26-year-old white male whom I saw in September, 1938, because of continuing unsteadiness in gait, loss of weight, easy fatigue, impaired speech, and difficulty in urination during the past year or two. He stated that a tumor of the palate had been found and he was receiving x-ray therapy. Superficial examination revealed atoxic gait and hyperactive reflexes, and I had a feeling that this was probably a case of malignant tumor and only palliative treatment was indicated until we should see what x-ray therapy could accomplish.

In January, 1939, he returned stating that the unsteadiness was becoming worse, he was easily fatigued, couldn't gain weight, continued having urinary and bladder difficulty and occasional diplopia, although his x-ray treatments had been finished. He was anxious to know what was the trouble. Neurologically, examination at this time showed hyperactive tendon reflexes, ataxic gait, some spasticity, some incoordination on finger to nose test, moderate intention tremor, positive Romberg and Babinski, ankle clonus, absent abdominal reflexes, right lateral nystagmus, difficulty in speaking clearly.

Laboratory Examination:

Blood, urine and Wassermann negative.

X-ray of skull negative.

Spinal Fluid—Showed bloody after puncturing blood vessel and probably should have been discarded but gave marked increase in globulin, 150 red cells, no white cells, chlorides 710 mgs/100 cc; sugar 59 mgs/100 cc; Wasserman reactions negative and colloidal gold 0-0-0-1-1-1-0-0-0-0.

Diagnosis: Multiple sclerosis.

This was confirmed by Dr. A. C. Kingsley and later at the Stanford University Medical Clinic by George S. Johnson, M.D., professor of neuro-psychiatry.

Treatment: Consisted in high vitamine diet and and the avoidance of exertion. Johnson at Stanford suggested quinine by mouth. Following the A. M. A. meeting in St. Louis and the public announcement of low temperature (freezing) therapy, this patient wrote to Dr. Temple Fay at Temple University Medical School telling him that he had noted he felt much better and less stiff when he took a cold bath, and asked if freezing would help his condition. Dr. Fay answered that they had had no experience with treating multiple sclerosis with reduced temperature.

I received a letter from Dr. Fay stating that he had found definite clinical improvement in certain cases following the administration of sodium salicylate to toleration along with complete spinal drainage and reduced fluid intake. Likewise, where cultures of streptococcus viridans had been obtained from the mouth, gums or throat he had administered autogenous vaccine. He states that they have found streptococcus viridans to be the cause of thrombo-phlebitis about the cord.[6] This seems to fit in with the findings of the Harvard group and is the treatment being followed in this case.

He has had two spinal drainages, one on August 28 with 45 cc. of fluid being withdrawn. and one October 21 with 35 cc. of fluid. Both fluids have been examined, the first showing a cell count of 2, marked increase in globulin, negative Wassermann and no color change in colloidal gold; and the second, 1 cell per cu. mm.; marked excess globulin, negative Wassermann reaction and colloidal gold 0000123210.

SUMMARY

I have given a brief description of multiple sclerosis, pointed out its rather common occurrence, the difficulty in diagnosis, particularly in early cases, and the unsatisfactory nature of present methods of treatment. However, a ray of hope can be seen in the hypothesis of thrombus formation in small vessels of cord and brain, thus pointing the way toward a rational form of therapy directed against the prevention of relapses rather than aiding in a remission.

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Anesthetic Procedures for Upper Abdominal Surgery

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RECENT progress in anesthesia has been due to the introduction of newer agents and to improvement in anesthetic technic. As our knowledge of chemistry and physiology has increased, the technic and practical application of anesthetic procedures have improved. This has given the patient the benefit of a safer, more comfortable hospitalization, with a reduction in post-operative morbidity and mortality.

For upper abdominal surgery, the primary requisites are adequate muscular relaxation and a quiet respiration. When these can be accomplished and

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the patient returned from surgery with active reflexes, and in a semi-conscious state, the chances of post-operative pulmonary complications are greatly diminished.

The wide variety of anesthetic agents and methods now available makes it possible to select the one most suitable for each individual patient, rather than use a standard routine for all. It is no more logical to employ one routine anesthetic procedure than to use one type of operation for every case, regardless of the pathology encountered.

PRE-OPERATIVE PROCEDURE

With this in view, the anesthetist should visit each patient the day previous to surgery. Before seeing the patient the history, physical findings, laboratory and x-ray reports are checked. Particular attention should be paid to the hemoglobin percentage, the degree of weight loss, whether gradual or rapid, and other such factors as might influence the patient's tolerance for toxic drugs. The patient is then interviewed and a check of the heart and lungs is made. If some type of local anesthetic is contemplated, it is advisable to question him to ascertain if he has any idiosyncracy to novocaine or other drugs that are being considered. Frequently information may be obtained by this method, which might be overlooked in the routine history taking. (If there is any question of sensitivity to local anesthetics, it is advisable to use skin tests prior to injection. Untoward results will be avoided by following this procedure.) During this interview the anesthetist may determine the proper pre-operative medication and select the type of anesthesia indicated. In making this selection, consideration must necessarily be given to the patient's condition and the contemplated surgical procedure. As a rule, patients are much more cooperative during regional procedures if they have been informed beforehand what to expect.

Sufficient pre-operative medication should be used to allay nervousness and fear. We ordinarily prescribe one of the barbituric acid group of hypnotics the night before operation. This is repeated two hours before surgery. One hour later a narcotic with scopolamine or atropine is ordered. The dosage of all drugs is adjusted to each patient. In our experience, the use of scopolamine rather than atropine has produced more complete amensia and lessened the occurrence of nausea.

ANESTHETIC PROCEDURE

There are several procedures available for producing satisfactory anesthesia in upper abdominal surgery. Our preference is to use some form of regional anesthesia supplemented with cyclopropane, or occasionally with an intravenous barbiturate. The regional procedures include spinal, peridural block and abdominal field block. We have found that spinal anesthesia combined with cyclopropane gives very satisfactory results. The patient experiences less shock by this method than when either of them is used alone. If a contraindication exists for cyclopropane, or if the contemplated operation is a long one, we frequently use the regional anesthesia of choice in combination with an intravenous anesthetic. This is most easily accomplished by starting an intravenous injection of 5% glucose in saline solution and injecting the barbituric anesthetic into the intravenous tube near the needle. This solution should be given intermittently in amounts sufficient to produce unconsciousness and prevent any nausea that may ensue from handling of the stomach or traction on the liver. This method also has special merit when a cautery is used. For spinal block we prefer to use the 10% procaine solution made especially for spinal anesthesia rather than the novocaine crystals. The results have been more uniform and the adjustment of dosage more easily accomplished. If anesthesia is necessary beyond the time expected of novocaine, a combination of pontocain and novocain is employed in varying proportions. In this manner the desired length of anesthesia can be obtained.

Peridural anesthesia is not used as frequently as spinal and as the technic is not so well known, it may be worth going into detail regarding it. The epidural space extends from the foramen magnum to the cauda equina. Anesthetic solution injected into this space outside the dura follows along the course of the spinal nerves through the intervertebral foramina and produces anesthesia by anesthetizing the nerves outside the vertebral canal, where they are not protected by their dural coverings. This method of producing anesthesia was first suggested and used by Fidel Pages in the early 1920's. He published his results, but soon thereafter developed pneumonia and died, and his work was not carried on. In the late 1920s, Dogliotti independently developed the same technic and it is due to his efforts that the method has become more popular today.

The technic is easy to employ, but it does require care to avoid an intradural injection. The patient is placed on the right side as in doing a spinal puncture. The site of puncture varies with the extent of anesthesia required, but is usually made between the second and third lumbar vertebrae. A skin wheal is raised and a deep injection of novocain solution is made to make introduction of the larger spinal needle painless. The spinal needle is inserted until it is engaged in the intraspinous ligament. The stilette is then removed and a 10 c.c. syringe containing normal saline solution is attached to the needle. As the needle is advanced toward the spinal canal, a gentle pressure is exerted on the plunger of the syringe. As the needle is passing through the ligament, it is practically impossible to inject any fluid. When the needle enters the peridural space, the solution can be easily injected. Care must be taken to stop the forward motion of the needle at this point to avoid puncturing the dura. 10 c.c. of 2% novocaine are now injected. Following this injection, 5 minutes by the clock is allowed to elapse. At the

end of this time the patient is tested to make sure that the solution has not reached the subarachnoid space. If the dura has been punctured and signs of spinal anesthesia are in evidence, no more solution is given. If there is no evidence of intradural anesthesia, an additional 15 to 20 c.c. of 2% novocain is then administered. As soon as this is completed the patient is turned on his back and put to sleep with cyclopropane. By the time the surgical preparation is completed and the incision made, the peridural injection will be taking effect so that a very light general anesthetic will be sufficient. The relaxation obtained by this method is comparable to that obtained from an intraspinal injection. Since we have reduced the total dose of novocain used for this block to 25 or 30 c.c. we have not had any severe untoward reactions.

For those patients whose condition is considered unsafe for either a spinal or peridural injection, abdominal field block plus cyclopropane is used. The block used for upper abdominal work is accomplished by creating a wall of anesthetic solution from the xyphoid along the costal margin to the outer border of the rectii muscles, thence down on each side to a point well below the umbilicus. 0.5% novocain is used for this work.

The technic for this block consists in raising a preliminary skin wheal at the xyphoid. An 80-mm. needle is then attached to the syringe and as the needle is advanced 2 to 4 c.c. is injected superficially just under the skin. The skin wheal for the next insertion of the needle is now raised from the under side. Injections are now made through the superficial fascia of the rectus muscle at about three points between these wheals, using 3 to 4 c.c. of solution for each. This procedure is carried out around the entire area mentioned above. 150 to 200 c.c. of 0.5% novocain will usually be required for this block. The amount of general anesthetic required for relaxation following this procedure is greatly reduced.

CYCLOPROPANE

When one of the regional anesthetic procedures is contraindicated, cyclopropane is the anesthetic agent of choice. To obtain satisfactory relaxation with this agent it is necessary to use a concentration of the gas above that ordinarily used. Cyclopropane produces anesthesia in a concentration of 15% to 20%. With concentrations above 25%, respiration is ordinarily inhibited. The depth of anesthesia can be safely increased beyond this point by using more cyclopropane while keeping the patient ventilated by making intermittent pressure on the breathing bag of the gas machine. This procedure eliminates respiratory movements on the part of the patient and thus facilitates the work of the surgeon. This maneuver must be accomplished without permitting cyanosis as anoxemia produces more damage to the heart than any direct toxic effect of the anesthetic agent. Intratracheal technic is not used as a routine in these cases but intratracheal tubes and a laryngoscope are always ready to cope with difficulties that may arise in mantaining a free airway.

Patients that are anesthetized in this manner must be decompressed gradually from the high percentage of oxygen, and hyper-ventilated at the close of the operation by the use of CO_2 mixed with air or helium.

The regional procedures enumerated above combined with cyclopropane have greatly reduced the use of ether in our practice. In locations where facilities are not available to administer cyclopropane, any other general anesthetic may be used. The use of the regional block will facilitate the mork of the surgeon and anesthetist, regardless of whether the combining agent is cyclopropane, nitrous oxide and ether, or straight ether by the open drop method.

POST-OPERATIVE MANAGEMENT

The post-operative management of patients following upper abdominal surgery is of prime importance. Dressings should be applied in such a manner that there will be a minimum amount of interference with free motion of the chest and diaphragm. If not contra-indicated by the type of surgery done, it is advisable to use the duodenal suction tube in order to lessen the possibility of emesis and aspiration of mucus, etc. CO_2 inhalations are used routinely every 20 to 30 minutes until the reflexes are active, then every 3 hours luring the first 24 hours. The nurse is instructed to change the position of the patient frequently and to insist upon deep breathing. Care should be exercised in the use of opiates in order to avoid undue respiratory depression. Strict observance of the above points is an important factor in avoiding post-operative pulmonary complications.

AUTHOR'S CASES

In a series of 1,700 anesthetics given between September 1, 1938, and September 1, 1939, 108 were for upper abdominal procedures. Of these, 62 were for operations on the gall bladder and 46 were for other upper abdominal procedures including gastric resections, gastroenterostomies, perforated ulcers, etc. 43 patients in this series were under 50 years of age; 53 were between 50 and 69, and 12 were over 70.

14 patients in this group had spinal anesthesia alone; 50 had spinal plus inhalation; 2 had spinal plus intravenous; 2 had peridural alone, and 21 had peridural plus inhalation. One patient had abdominal field block and 7 had abdominal field block plus inhalation. 11 had inhalation without any form of regional anesthesia.

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The complications which occurred in the entire series which might be attributed to anesthesia were 2 cases of pneumonia with 1 death. Atelec-

the patient returned from surgery with active reflexes, and in a semi-conscious state, the chances of post-operative pulmonary complications are greatly diminished.

The wide variety of anesthetic agents and methods now available makes it possible to select the one most suitable for each individual patient, rather than use a standard routine for all. It is no more logical to employ one routine anesthetic procedure than to use one type of operation for every case, regardless of the pathology encountered.

PRE-OPERATIVE PROCEDURE

With this in view, the anesthetist should visit each patient the day previous to surgery. Before seeing the patient the history, physical findings, laboratory and x-ray reports are checked. Particular attention should be paid to the hemoglobin percentage, the degree of weight loss, whether gradual or rapid, and other such factors as might influence the patient's tolerance for toxic drugs. The patient is then interviewed and a check of the heart and lungs is made. If some type of local anesthetic is contemplated, it is advisable to question him to ascertain if he has any idiosyncracy to novocaine or other drugs that are being considered. Frequently information may be obtained by this method, which might be overlooked in the routine history taking. (If there is any question of sensitivity to local anesthetics, it is advisable to use skin tests prior to injection. Untoward results will be avoided by following this procedure.) During this interview the anesthetist may determine the proper pre-operative medication and select the type of anesthesia indicated. In making this selection, consideration must necessarily be given to the patient's condition and the contemplated surgical procedure. As a rule, patients are much more cooperative during regional procedures if they have been informed beforehand what to expect.

Sufficient pre-operative medication should be used to allay nervousness and fear. We ordinarily prescribe one of the barbituric acid group of hypnotics the night before operation. This is repeated two hours before surgery. One hour later a narcotic with scopolamine or atropine is ordered. The dosage of all drugs is adjusted to each patient. In our experience, the use of scopolamine rather than atropine has produced more complete amensia and lessened the occurrence of nausea.

ANESTHETIC PROCEDURE

There are several procedures available for producing satisfactory anesthesia in upper abdominal surgery. Our preference is to use some form of regional anesthesia supplemented with cyclopropane, or occasionally with an intravenous barbiturate. The regional procedures include spinal, peridural block and abdominal field block. We have found that spinal anesthesia combined with cyclopropane gives very satisfactory results. The patient experiences less shock by this method than when either of them is used alone. If a contraindication exists for cyclopropane, or if the contemplated operation is a long one, we frequently use the regional anesthesia of choice in combination with an intravenous anesthetic. This is most easily accomplished by starting an intravenous injection of 5% glucose in saline solution and injecting the barbituric anesthetic into the intravenous tube near the needle. This solution should be given intermittently in amounts sufficient to produce unconsciousness and prevent any nausea that may ensue from handling of the stomach or traction on the liver. This method also has special merit when a cautery is used. For spinal block we prefer to use the 10% procaine solution made especially for spinal anesthesia rather than the novocaine crystals. The results have been more uniform and the adjustment of dosage more easily accomplished. If anesthesia is necessary beyond the time expected of novocaine, a combination of pontocain and novocain is employed in varying proportions. In this manner the desired length of anesthesia can be obtained.

Peridural anesthesia is not used as frequently as spinal and as the technic is not so well known, it may be worth going into detail regarding it. The epidural space extends from the foramen magnum to the cauda equina. Anesthetic solution injected into this space outside the dura follows along the course of the spinal nerves through the intervertebral foramina and produces anesthesia by anesthetizing the nerves outside the vertebral canal, where they are not protected by their dural coverings. This method of producing anesthesia was first suggested and used by Fidel Pages in the early 1920's. He published his results, but soon thereafter developed pneumonia and died, and his work was not carried on. In the late 1920s, Dogliotti independently developed the same technic and it is due to his efforts that the method has become more popular today.

The technic is easy to employ, but it does require care to avoid an intradural injection. The patient is placed on the right side as in doing a spinal puncture. The site of puncture varies with the extent of anesthesia required, but is usually made between the second and third lumbar vertebrae. A skin wheal is raised and a deep injection of novocain solution is made to make introduction of the larger spinal needle painless. The spinal needle is inserted until it is engaged in the intraspinous ligament. The stilette is then removed and a 10 c.c. syringe containing normal saline solution is attached to the needle. As the needle is advanced toward the spinal canal, a gentle pressure is exerted on the plunger of the syringe. As the needle is passing through the ligament, it is practically impossible to inject any fluid. When the needle enters the peridural space, the solution can be easily injected. Care must be taken to stop the forward motion of the needle at this point to avoid puncturing the dura. 10 c.c. of 2% novocaine are now injected. Following this injection, 5 minutes by the clock is allowed to elapse. At the

end of this time the patient is tested to make sure that the solution has not reached the subarachnoid space. If the dura has been punctured and signs of spinal anesthesia are in evidence, no more solution is given. If there is no evidence of intradural anesthesia, an additional 15 to 20 c.c. of 2% novocain is then administered. As soon as this is completed the patient is turned on his back and put to sleep with cyclopropane. By the time the surgical preparation is completed and the incision made, the peridural injection will be taking effect so that a very light general anesthetic will be sufficient. The relaxation obtained by this method is comparable to that obtained from an intraspinal injection. Since we have reduced the total dose of novocain used for this block to 25 or 30 c.c. we have not had any severe untoward reactions.

For those patients whose condition is considered unsafe for either a spinal or peridural injection, abdominal field block plus cyclopropane is used. The block used for upper abdominal work is accomplished by creating a wall of anesthetic solution from the xyphoid along the costal margin to the outer border of the rectii muscles, thence down on each side to a point well below the umbilicus. 0.5% novocain is used for this work.

The technic for this block consists in raising a preliminary skin wheal at the xyphoid. An 80-mm. needle is then attached to the syringe and as the needle is advanced 2 to 4 c.c. is injected superficially just under the skin. The skin wheal for the next insertion of the needle is now raised from the under side. Injections are now made through the superficial fascia of the rectus muscle at about three points between these wheals, using 3 to 4 c.c. of solution for each. This procedure is carried out around the entire area mentioned above. 150 to 200 c.c. of 0.5% novocain will usually be required for this block. The amount of general anesthetic required for relaxation following this procedure is greatly reduced.

CYCLOPROPANE

When one of the regional anesthetic procedures is contraindicated, cyclopropane is the anesthetic agent of choice. To obtain satisfactory relaxation with this agent it is necessary to use a concentration of the gas above that ordinarily used. Cyclopropane produces anesthesia in a concentration of 15% to 20%. With concentrations above 25%, respiration is ordinarily inhibited. The depth of anesthesia can be safely increased beyond this point by using more cyclopropane while keeping the patient ventilated by making intermittent pressure on the breathing bag of the gas machine. This procedure eliminates respiratory movements on the part of the patient and thus facilitates the work of the surgeon. This maneuver must be accomplished without permitting cyanosis as anoxemia produces more damage to the heart than any direct toxic effect of the anesthetic agent. Intratracheal technic is not used as a routine in these cases but intratracheal tubes and a laryngoscope are always ready to cope with difficulties that may arise in mantaining a free airway.

Patients that are anesthetized in this manner must be decompressed gradually from the high percentage of oxygen, and hyper-ventilated at the close of the operation by the use of CO_2 mixed with air or helium.

The regional procedures enumerated above combined with cyclopropane have greatly reduced the use of ether in our practice. In locations where facilities are not available to administer cyclopropane, any other general anesthetic may be used. The use of the regional block will facilitate the mork of the surgeon and anesthetist, regardless of whether the combining agent is cyclopropane, nitrous oxide and ether, or straight ether by the open drop method.

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tasis occurred twice; pulmonary abscess caused death in 1 gastric resection on the twenty-seventh jection. One patient died of urinary suppression post-operative day. This patient had been up and around before symptoms developed. Parotitis occurred once; 3 had slight pulmonary congestion, and 1 had a diaphragmatic pleurisy. Traumatic neuritis followed a paresthesia from a spinal in- on the third post-operative day.

In conclusion, we would like to emphasize the importance of adequate relaxation during surgery.

The use of regional with general anesthesia has proved satisfactory in our practice.

1561 Puebla Drive.

An Unusual Vertebral Anomaly

HERBERT E. HIPPS, M. D.
Marlin, Texas

A THOROUGH review of the literature on vertebral anomalies has failed to find a report on the type of anomaly to be presented here. Its resemblance to a fracture of the vertebral body is so great that its presentation will probably be of some value.

CASE REPORT

Miss T., age 24, white, nurse, came in one afternoon complaining of a mild low back pain that came on that same morning after turning a patient over in bed. She was immediately conscious of the pain while lifting the patient, but paid very little attention to it at first and kept working. It, however, became worse during the day with continued activity.

Fig. 1. Fissure defect on fifth lumbar vertebra between arrows.

Examination of the spine found slight limitation of motion in the low lumbar region. Motion exaggerated the pain, particularly raising up from a flexed position. There was tenderness of a slight degree over the iliac crests posteriorly and muscle resistance test was definitely positive and produced pain over the lumbar region of the back and along the posterior iliac crest on both sides.

X-ray examination showed the vertebral defect as in Fig. 1. The A. P. and oblique views were negative. Laboratory tests were all negative.

A diagnosis of simple muscle strain was made. The patient was told to wear a tight-fitting stiff corset for a few days and to limit her activity.

Her pain cleared up in four or five days and has not returned over a period of 18 months since its onset.

DISCUSSION

The defect visible in the fifth lumbar in the first x-ray was thought to be a vertebral anomaly, because of the smooth fissure line, the absence of displacement, the history of trauma insufficiently great to fracture a vertebra, the absence of tenderness over the fifth lumbar spinous process and other minimal physical findings.

The subsequent progress of the patient seemed to confirm this opinion, as her pain cleared up completely in five days and x-rays made at the end of six weeks and at four months and eighteen months failed to show any change whatever in the appearance of the defect. The fissure line remained smooth and of the same width; no new bone formation occurred and the density of the bone on either side of the fissure line did not change and no displacement was subsequently found.

This case is unquestionably a vertebral anomaly of some nature. Just what this anomaly may be cannot be accurately determined from the x-ray plate alone, but there are three possibilities as to its probable origin that may be considered. It is possible that it could represent an ununited ring like vertebral epiphysis, a persistent venous sinusoid or a form of sclerotomic mal-development.

It is not likely, however, that this is a persistent venous sinusoid as is described by Wagner, Pendergrass and others. It is too clearly defined, the margins are too sharp and there is not the hazy indefiniteness characteristic of sinusoids. It is also improbable that this could be a mal-formation of the ring like vertebral epiphysis. Its location and the oblique position of the fissure line are different from what is most often seen with known mal-formations of the vertebral plate epiphysis.

The most likely explanation is a mal-formation occurring during the sclerotomic stage of development where the dense caudal part of one sclerotome has failed to unite with the loose cephalic part of the other sclerotoms to form the vertebral

body, thus leaving the clearly defined fissure line visible here in the x-ray plate.

Regardless of its origin, it can be safely assumed that this is a distinct anomaly instead of a fracture in the vertebral body.

CLINICAL IMPORTANCE

The recognition of this anomaly as such is important because of its close resemblance to a fracture.

It is possible to have a fracture of a vertebral body without displacement, but the x-ray picture would not be likely to present such a smooth fissure line as this, and the subsequent changes that would occur in the x-ray plate with the passage of time would, of course, make the diagnosis certain. The possibility of this anomaly existing should, therefore, be kept in mind in any case of an injury to the spine with an x-ray picture presenting findings suggestive of a fracture without displacement.

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Severe Fractures of the Shaft of the Tibia

(Description of a Method of Reduction)

M. G. ROSENBAUM, M. D.

Albuquerque, New Mexico

ONE of the most common fractures is that of the shaft of the tibia and the fibula. Often oblique and comminuted, this fracture may present a difficult problem of restoration and maintenance of the bone fragments in good position. Many and varied methods of treatment are advocated, but not all are suitable for each fracture. The purpose of this paper is to discuss some commonly employed methods and to describe a method used by the author.

In an uncomplicated fracture of the shafts of the tibia and the fibula a method of treatment should attain union, restore normal alignment and length of the leg, and avoid undesirable complications such as stiffness of joints, footdrop, muscle atrophy, and infection, if the best possible result is to be obtained. While it is sometimes impossible to obtain all these desired results, yet with careful consideration and supervision by the physician and co-operation on the part of the patient, the outcome can be made highly satisfactory to both doctor and patient.

Almost all oblique, comminuted fractures of the tibial shaft show displacement; if not caused by the original trauma, displacement is produced by the muscle spasm which shortly takes place. Spasm of the gastrocnemius-soleus muscles causes overriding of the bone ends whenever they are not engaged; spasm of the quadriceps causes anterior displacement of the proximal fragment.

The non-operative methods attempt to reduce and hold the fragments in good position by strong traction on the lower leg while a cast is being applied. This traction may be applied by means of a clove hitch tied about the ankle, or by tongs, pin or wire in the lower tibia or oscalcis. The reduction is normally made with the knee flexed over a bar or frame so as to relax the gastrocnemius muscle. If the bone ends can be securely locked, a tight-fitting cast extending well up into the groin will maintain the reduction.

Badly comminuted and oblique fractures with overriding usually will not stay reduced by this method. The fragments may slip despite the most constant care on the part of the patient; indeed, displacement may occur as late as four or five weeks after reduction. Not being suspected it is not discovered for a considerable period, and correction is difficult because of advanced healing and shortening of the soft tissues. For this type of fracture three methods of treatment are available: first, constant traction on the leg by means of a wire or pin, until sufficient callus has formed to assure maintenance of position in a cast; second, skeletal transfixion by pins or wires which are incorporated in the cast and so immobilize the fragments after reduction; and third, reduction and fixation at open operation.

The application of skeletal traction to the leg by means of wire or pin through the lower tibia or oscalcis is of proven value. Not only overriding, but anterior-posterior and lateral-medial displacement may be corrected; pressure pads and slings can be applied. The leg is elevated on a splint to provide flexion in the knee. Frequent

(Continued on page 412)

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TARNISHED HALOES

The smug holiness of motive with which many newspapers have crowned themselves calls to mind the ludicrous episode of an impatient Napoleon snatching the golden headpiece from a slightly hesitant Pope. When editors soundly belabor the current crop of America's demagogues, they unwittingly castigate their own behavior. For years they have tutored the subject of demagoguery in their columns. The amount of professed bleeding in the "peepul's" interest would have by now filled all known oceans. The din of tub-thumping has at times become so hideous that it must have pained even the tympani of the owners of these erudite journals. At one time most newspapers in this country had a splendid record of truthfulness and devotion to the welfare of the public. Too many now exist on a fasting diet made up of the bones of these dead glories. No public service is rendered by careless publication of part-truths regarding serious topics. And the charge of part-truth must stand as modifying any piece of writing which does present the complete facts. Newspapers in general possess great power, for good or evil, and that power should be regarded as too sacred to soil it with careless, prejudiced scribbling. When certain newspapers once more realize and accept their one-time enviable status as a public trust, then indeed will the public trust them again.

Whose interest is served by this flippant, misleading thoughtless piece:[1]

DOCTORS WAKING UP

The trustees of the American Medical Association have proposed a national health program which only a few years ago would have seemed rather revolutionary.

A federal health agency, possibly with a secretary in the President's Cabinet; allotment of federal funds to states in actual need for prevention of disease and care of the sick; extension of medical care for the indigent; expansion of preventive medical services — these and other recommendations are made. But the A. M. A. trustees stress local control of administration, full use of present medical services and hospitals before launching a vast Government hospital-building program, and "continued development" of private practice.

This program, of course, is intended as a substitute for the Wagner national health bill, now pending in Congress. The doctors say that their plan could be administered "with far more efficiency," and that it would avoid what they consider the dangers of "compulsory sickness insurance, state medicine and similar technics" resulting "in a trend toward Communism or totalitarianism and away from democracy."

The Wagner bill whatever its faults or merits, does seems to have prodded the A. M. A. into a more enlightened attitude, and that is a gain. No health program can do as much good as it should unless it has the sympathy and co-operation of the medical profession. But the doctors won't defeat the Wagner bill by calling it undemocratic. They will have to prove that they have a better prescription for the ills of inadequate medical and hospital service which thus far have not been cured by the system of private practice.

A minimal effort of thinking would have shown the writer (1) that long ago these principles were advocated by the American Medical Association; (2) that the American physician's Code of Ethics has for generations meant just what these "new" statements say in shorter terms; (3) that American medicine today is the most wide-awake of any in the entire world; (4) that if the American Medical Association quietly points out the possible danger of Communistic concepts it is only following the masterful screaming of the daily press, which from 10-pound dailies to boiler-plate weeklies bellows "Dictatorship" in chorus every time any member of the Administration belches; (5) that it is poor thinking to lay the major cost of illness on the physician's back, forgetting that of the dollar spent for medical care in America the doctor (M. D.) gets not over 15 cents, the rest going to the druggists, hospitals, nurses, appliance manufacturers, drug and serum makers, patent medicine vendors, quacks, cultists, fakeries; (6) that America's regular physicians, members of the dread A. M. A., give of their time, knowledge and services to the tune of over $1,000,000 per day to this country's needy; (7) that it is ultimately the high cost of quackery that is the largest factor in making medical care seem high in price; (8) that quackery of the most dangerous sort is carried in the advertising columns of nearly all the papers of the land, and that there is the first place to start cleaning house.

It is well known that advertising interests and patent medicine vendors long fought in unholy union to prevent the A. M. A. endorsed pure food and drugs acts passage in the Congress. So, when

better thinking is used and cleaner motives apparent, then again the people of America can justifiably place their faith in their holy protectors, the daily press.

1. El Paso Herald Post, Nov. 23, 1939.

LATTER-DAY JENNERS

One of the lamentable short-comings of modern medicine is that so many of its practitioners leave their intern days with an up-raised eyebrow at research not fathered by some university or some ultra-scientific foundation. Too easily does the notion gain root that the medical frontiers today can be explored adequately only by the eminent Ph. D.'s in their shiny imposing laboratories. The mass of institutional publications and pronouncements has a way of drowning out the physician's memory of the debt mankind owes to such bed-side thinkers and experimenters as Jenner and Sir James Mackenzie. These two clinicians observed truly, contributed mightily—from humble bed-side outposts.

Let physicians remember always that the cloistered savants are by no means possessed of the magic key to all knowledge. Let the bed-side clinician use his powers of observation, and be eternally chary of doing all his learning out of dogmatic texts and current literature.

Right or wrong, a recent article[1] on the comparative epidemiology of encephalomyelitis and poliomyelitis bears the merit of reopening the once closed discussion regarding the transmission of poliomyelitis. Other thinking may be stimulated, to the end of finally solving a question that we know now is not at all answered when we blindly accept the former word of one professor—that poliomyelitis is transmitted via the upper respiratory tract. The idea of possible transmission via insect vectors is again discussed. The hypothesis is interesting, albeit not new—but needed to be called to attention again.

Perhaps this generation of medical men may yet produce from its common ranks another Jenner. Many signs so indicate.

1. Murphy, J. Harry: Comparative Epidemiology of Encephalomyelitis and Poliomyelitis. Nebraska S. M. Journal 24:463, (December) 1939.

PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extenson of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

RADIO BROADCASTS

"Medicine in the News" is the title of a weekly broadcast sponsored by the American Medical Association over the Blue Network of the National Broadcasting Company. The program is a dramatized outline of some significant development in medicine, lasts one-half hour. It is available at 2:30 p.m. (M.S.T.) over these Southwestern stations: KTAR, Phoenix; KVOA, Tucson; KOB, Albuquerque; KTSM, El Paso.

The program is carried by these stations as a public service, no remuneration being received by them. KTSM has broadcast the program since its beginning in November. Physicians in New Mexico and Arizona should check with their stations to see that their communities receive the benefit of these well-planned programs.

NATIONAL PHYSICIANS' COMMITTEE

At long last the leaders of American Medicine recognize the crying need of a public relations department.[1] So, unofficially, certain former officers of the American Medical Association are now sponsoring what is called "The National Physicians' Committee for the Extension of Medical Service."

The stated aims of the organization are to:

1. Make possible the providing of medical service to the indigent and those in the low-income groups, and insure the most widespread distribution of the most effective methods and equipment in medicine and surgery.

2. Assume the responsibility of countering destructive propaganda by familiarizing the public with the facts in connection with the methods and the achievements of American Medicine.

These objectives have long needed sponsorship. It will be wished by many that the American Medical Association itself could have undertaken this task. May the new committee never justify the charge of reaction and Toryism being lodged against it. Let it beware of the kiss of death that certain notorious "fellow-travelers" might bestow upon it, and most physicians will accord the new committee at least tentative approval as a fair beginning.

1. Editorial, SOUTHWESTERN MEDICINE, 22:98 (Mar., 1938).

Special Section

Arizona State Medical Association

PRESTON T. BROWN, M. D., *Associate Editor*
403 Professional Bldg., Phoenix, Arizona

MARICOPA COUNTY MEDICAL SOCIETY OFFICERS FOR 1940

At its regular monthly meeting on Monday, December 4, the following officers were elected to serve Maricopa County Medical Society for 1940:

President ..... Dr. Elton R. Charvoz
Vice-Presdent ..... Dr. James Lytton-Smith
Secretary-Treasurer ..... Dr. Lloyd K. Swasey
Directors ..... Drs. O. W. Thoeny, F. M. Kilgard
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Member Library Board, Dr. Marriner W. Merrill

REFRESHER COURSE IN OBSTETRICS

Dr. E. D. Plass, professor of obstetrics and gynecology at State Unversity of Iowa, gave a series of post-graduate lectures on obstetrics during the month of November in the following towns in Arizona: Kingman, Williams, Flagstaff, Winslow, Holbrook, Safford, Phoenix, Yuma, Florence and Tucson. The following were among the subjects covered in these statewide lectures: "Delayed Labor and Contracted Pelvis," "Toxemia of Late Pregnancy," "Anesthesia in Obstetrics," "Delivery and Post Partum Routine," "Bleeding in Early Pregnancy: Abortion," "Bleeding in Late Trimester and After Delivery," "Purperal Infection," and others.

These courses were supported by the Maternal and Child Health Division of the State Health Department and were arranged in co-operation with the Committee on Maternal Welfare of the State Medical Society through Dr. C. B. Warrenburg, the chairman. Previous courses on the same subject have been given by Dr. Calkins of the University of Kansas, Dr. Miller of the University of Michigan, and Dr. Davis of the University of Chicago. Letters received by the chairman of the committee, as well as the increasing attendance, have attested the growing interest of physicians in this work. The co-operation between Dr. Eason, director of Maternal and Child Health Program, and the Committee for the State Medical Association has been very gratifying to all concerned.

APPENDECTOMY REVIEW

ST. JOSEPH'S HOSPITAL
DR. C. C. CRAIG

In reviewing the appendectomies for St. Joseph's Hospital from January 1 to Ooctober 1, 1939, I am first going to compare statistics which appeared in Volume 113, No. 14, page 1288, J. A. M. A., the article by Horsley, Richmond, Va. He is reporting on 972 acute appendices with 6 deaths, or a percentage of 0.617%. These were from January 1, 1931, to May 1, 1939. He includes no cases in which the appendix was not the primary cause of the operation. In this report I am reporting on appendectomies, whether primary or secondary.

In this series for 9 months, there have been 465 appendices done with a total of 5 deaths, or percentage of 1.075%. I am including all deaths in this series so that there can be no claiming of padding the report. At least 2 of these deaths were not due to the appendix. In the classification as to type of appendix I have taken the pathological report as the classifying agent, this quite often differed from the surgeon's report on the first sheet. I find that we have 238 chronic appendices, 71 sub-acute, 152 acute, 29 ruptured, and 127 that were removed incidental to some other operation. I find that one man, or one group of men (which I classified as one man), did from 90 to 100 appendectomies, 2 did from 40 to 50, 2 from 20 to 30, 9 from 10 to 20, and 26 men did from 1 to 10, giving us a total of 40 men doing a total of 465 appendectomies. I want to mention at this time that the county service had 48 appendectomies in which there was not a single death.

The highest white count in this series was 29,650, 92% polys. This case, however, was a case of acute gall bladder disease and the appendix was not at fault. The low white count was 4,900, and was also a chronic appendix secondary to another operation. The blood counts did not seem to agree with the pathological findings in case of a count of over 10,000 unless the differential count ran 75 to 80% or more. I feel in definite accord with those who have reported and written before me that too much reliance can be placed on the total blood count. This is not the fault of the laboratory but it boils down to the fact that the surgeon must not be guided entirely by the blood count; must be guided by the patient, the symptoms, history and physical, his own personal experience, and the laboratory findings. From this survey I would feel that the differential count is a greater factor than the total count, but if I tried to rely on the differential count alone, I know that it would probably cross me up the next time I relied entirely on it.

There were 3 cases of post-operative pneumonia, classified as such, and one case of pre- and post-operative pneumonia. All of these cases recovered.

Of this group there were 33 acute ruptured appendicies with 2 deaths, or a percentage of 6.06%. As to treatment, I will quote Horsley.

"Since January 1, 1931, we have adopted five

Read before Maricopa County Medical Society,. October 7, 1939.

The President's Page

LOOKING FORWARD

WITH the year 1940 just around the corner, the theme of my presidential address comes to mind. Much of the program suggested in the address mentioned has been put into effect—expenses of guest speakers arranged for; committees with continuous, rotating terms; post-graduate programs in the making; the establishment of an Association office with a full-time executive secretary employed; a public relations program ready to launch the first of the year, etc. For these accomplishments I take no personal credit as there has been a gradual building toward these various ends for many years past, the Council and the membership supporting me in every move to get certain projects under way, and I am truly most grateful for this wonderful co-operation.

One objective has not been reached, but we are headed in that direction, and it, too, will eventually come about. I refer to an annual visit of the president to each county society. This is something which I feel would be of mutual benefit to the county medical societies, as well as to the president, and I had hoped to inaugurate this custom during my term. However, much time would be consumed in making these trips over a state of such domain as Arizona, taxing the president heavily in time and money. Until such time as our Association reaches the point where funds will permit the president a traveling expense, this matter will have to wait as a state-wide annual project. To compensate partially for this need, a conference of presidents and secretaries of the county medical societies was held in October—the results being most gratifying as an initial movement. Pending the time when the president is able to make annual visits to the county societies, it is my suggestion that an expense account be provided, and the executive secretary be requested to attend to this important item.

For 1940, with your continued co-operation, the Council and Committees can drive on to a good record of work accomplished. Everything points in that direction as 1939 comes to a close.

With most grateful appreciation for the splendid co-operative spirit which you have extended us during the year, and on behalf of the Council, I wish for membership—individually and collectively—a Happy Christmas and that you will prosper abundantly during the New Year.

In all sincerity,

Thos. L. Smith M.D.

PRESIDENT, ARIZONA STATE MEDICAL ASSOCIATION.

points for the routine treatment of all patients with acute appendicitis:

"1. Immediate operation is done as soon as the diagnosis is made, no matter what the stage of the disease.

"2. A McBurney or gridiron incision is made, and the appendix is always removed. We have not left an appendix in during that period.

"3. The tissues are handled gently, suction is used instead of sponges, and no gauze sheets or packs are placed within the peritoneal cavity.

"4. The stump of the appendix is treated simply, being merely ligated, severed and disinfected.

"5. Physiologic rest of the gastrointestinal tract is effected by limiting the oral intake and avoiding proctoclysis. In all cases of spreading peritonitis or when a perforation or abscess exists, essential water and electrolytes with some calories are given intravenously by 5% dextrose in saline or Ringer's solution. If there is distention, the stomach is decompressed by inserting a nasal tube to the stomach or duodenum, and, if the distention is great, continuous suction is applied.

"If the appendix has ruptured and there is a local abscess, the abscess is opened as gently as possible without disturbing the adhesions except just enough to gain access to the appendix. A suction apparatus withdraws the pus. In peritonitis this is also done, but under no condition is gauze packing placed or sponging with gauze used to remove pus. A gauze sponge that removed some of the pus also forces into the tissues sepsis which otherwise might not be absorbed. It may not appear elegant to see pus running over the wound and the intestine, but it is much better than to press even a small portion of it into the tissues. If a suction apparatus is not available, a catheter with a syringe attached can be used.

"The treatment of the stump of the appendix is simple. The base is ligated with stout chromic catgut but is never clamped. Clamping the base and placing the ligature in the bite of the clamp crushes the base unnecessarily, whereas the only tissue to be injured should be that within the grasp of the ligature, which makes a much narrower trauma than a clamp. The appendix is clamped a short distance from the ligature, surrounded with moist gauze and severed with the electric cautery. The stump is disinfected with pure phenol, curetted and again disinfected with pure phenol. The ligature on the stump is threaded in a needle and passed through adjacent peritoneum-covered fat. This is done to promote the absorption of the stump and to protect it from the pressure of the drainage. No sutures are placed in the cecum and no effort is made to bury the stump of the appendix.

"Burying the stump of the appendix creates a cavity in which necrotic material, the stump of the appendix and a foreign body, the ligature, are enclosed, and the purse-string suture which buries the stump cuts off some of the blood supply. This would seem to be an ideal method for creating an abscess, and as a matter of fact it apparently does. Thus, H. E. Robertson (personal communication to the authors), pathologist at the Mayo Clinic, has found that in all necropsies in cases in which the appendix has been removed incidentally during some other operation there is a pocket of pus in this cavity up to 21 days after the operation. Fortunately it usually ruptures into the intestine, but it may not always do so. Dr. Robertson says: 'For a long time I have been, in season and out of season, inveighing against the custom of burying the stump of the amputated appendix. It strikes me as wholly illogical and, worse than that, a dangerous procedure. The well known ostrich with his head in the sand hasn't very much on this custom.'

"The McBurney incision gives ample access in most cases of appendicitis and can be enlarged if necessary. It is particularly adaptable in suppurative cases because in such instances the wound is not closed. One or two cigaret drains and a soft rubber tube are inserted, and the peritoneum is lightly sutured around the drains. The rest of the wound is left open and packed with petrolatum gauze. When such wounds are sutured, suppuration of the abdominal wound often follows and there are pockets of pus. This treatment has been advocated by H. A. Gamble of Mississippi in all cases of peritonitis. It is a valuable contribution.

"The cigaret drains are left in for about 2 days, though if the temperature continues high and the pulse is rapid the drains are not disturbed until the temperature and pulse come down. Drainage is not solely mechanical, but the presence of the gauze cigaret tends to induce pouring out of lymph around it and washes out the sepsis. The petrolatum gauze is not removed for several days. The wounds usually heal satisfactorily and may be drawn together with adhesive tape.

"So far as we know there have been in this series only 6 cases of post-operative hernia in 119 drainage cases, and they have all occurred in cases in which there was rather extensive, long-draining sepsis.

"Unless all these five points are followed, it would doubtless be unwise to adopt some of them, such as the removal of the appendix in every case and immediate operation. Some of these five points, such as the McBurney incision, immediate operation and the simple treatment of the stump of the appendix, have been used by us for many years before 1931, but it is only since that time that they have been combined with two other extremely important points; that is, giving physiologic rest by supplying fluids intravenously, and the use of suction for removing pus instead of sponging or placing gauze packs in the abdomen.

"We seldom encounter paralytic ileus or mechanical obstruction. When distention does occur we use the nasal tube with suction, phleboclysis and an oxygen tent with high concentration of oxygen. The benefit of the use of sulfanilamide in appendicular abscess or in spreading peritonitis from appendicitis has not been definitely determined. Primary or hematogenous peritonitis is frequently from streptococci, and here sulfanilamide is extremely helpful." * * *

In the charts that I reviewed I did not specifically look for the fact of whether or not the appendix was removed in all ruptured cases, but it was my impression that the appendix was removed in every case except three. The method of treatment of the appendicial stump seemed to be about half of the men cut and dropped, and the other half inversion of the stump. I have not checked the post-operative on these cases and I do not know whether or not sulfanilamide was used on any of these cases. However, reports have been made of its having definite therapeutic advantages in acute ruptured appendicitis cases.

Case No. 49111. Entered hospital 8-19-39, died 8-28-39. Female patient, colored age 33, chills and spiking fever 2½ weeks. Menstruation normal. History sketchy on account of poor condition of patient.

Physical Examination: B. P. 80/40. Colored female, asthenic build, lying in bed, somewhat restless, having occasional emesis, appears quite ill and drowsy, does not respond very well, is quite dehydrated, skin hot and dry.

Heart: Rapid, good quality, regular, no thrills or murmurs. Pulse 144, wiry.

Abdomen: Flat, no scars, some tenderness on depression in gall bladder region, also on slight pressure, but indefinite over tubia-ovarian regions, no rigidity or muscle spasm.

Vaginal Examination: Reveals a mass on left side of uterus, somewhat continuous with uterus, large and tender. Right side seems normal. Apparently a left ovarian abscess.

Operation: Showed a large boggy mass in pelvis which was difficult to deliver. There were dense adhesions between the omentum, bowels and the mass. The adhesions were freed and the mass was delivered. Right and left ovaries were markedly enlarged with a dense capsule uterus enlarged and adherent. Right ovarian cyst punctured accidentally, colon smelling purulent materially escaped.

Operation: Supravaginal, sub total hysterectomy. Bilateral salpingo-oophorectomy appendectomy, appendectomy incidental and secondary to main surgery. Patient died of acute renal failure, massive systemic infection resulting from pelvic abscess. Patient expired 5 days following surgery.

This is one case that should not be classified as an appendix death.

Case No. 49331. Five months old female infant, entered hospital 9-17-39 with intussusception at ileocecal junction. Essentially negative history except nausea for 24 hours previous to admission and bloody stools for 18 hours previous to admission.

Physical: Negative except slight distention of abdomen, indefinite mass in McBurney's area. Abdomen very tense and rigid.

Surgery was performed 6 hours after entry and after consultation and a intussusception involving the ileocecal junction of the appendicial area was reduced. Appendix was removed incidental to operation and the pathological report showed acute appendicitis, but the child died probably as a result of toxic material in the intestine from the obstruction as the temperature continued to rise steadily from the time of entry until death 18 hours following entry and 12 hours after surgery.

This is not a true appendix death.

The *third case* was *No. 28101.* White male, 29 years of age, with acute gangrenous appendix, who in 1933 had had a toxic adenoma of the thyroid removed. Entered the hospital 2-9-39, had symptoms for 8 hours previous to entry; an acute gangrenous appendix was removed. Patient had 2 good days following surgery although his temperature began to go up the day following surgery to 101 degrees. Sputum typing was positive with type 6. Pulse 110, but good. On the 2-11-39 general condition better. On the 12th, or 3rd postoperative day, patient had a general myocardial and periphero-vascular failure and died, probably as a result of the old myocarditis from his thyroid.

The other 2 cases of death will be reviewed by Dr. Cohen and Dr. Paul Palmer.

If the 2 cases, one of pelvic abscess and the other intussusception, are withdrawn as appendicial deaths, the percentage as corrected is 0.64%, and if the case of myocardio failure was not counted, it leaves a corrected percentage of 0.43%. However, I feel that the case of myocardio failure must be included because his acute appendix made it necessary for him to be operated in spite of the fact that it was probably known in advance that his myocardium was weak, so that I feel our corrected percentage should be 0.64%.

I feel that great stress must be laid on the fact that here were 33 cases of ruptured appendicitis with only 2 deaths, a percentage of 6.06%. This may be compared with a report on peritonitis by Thew Wright, et al, in the September 30, 1939, J. A. M. A., page 1285, in which he states that the mortality rate in Buffalo hospitals in 1935 was 45.4%, and his report bringing that up to date from 1935 to 1939 was a mortality rate of 11,7%. In this small series our percentage mortality is definitely under their mortality.

The cases of ruptured appendicitis with peritonitis, or abscess, required the greatest skill of the surgeon.

In summary, I would say that we have no need to be ashamed of this record in comparison with any hospital any place. However, it is only by eternal vigilance that a record may be kept to such a high standard.

	Acute	Acute & Ruptured	Sub-Acute	Chronic	Secondary	Total
Number	152	33	71	238	127	465
Deaths	1	2			2	5
Percentage	.65%	6.06%			1.57%	1.075% corercted mortality 0.64%

PROCEEDINGS OF EL PASO COUNTY TUMOR CLINIC

October 10, 1939

EL PASO CITY-COUNTY HOSPITAL

Present: Doctors E. K. Armistead, Bennett, Cathcart, Gallagher, Green, Newman, Rennick, Safford, Snidow, Waite, Webb, and Doctors Crouch, Goodloe, Powell, Riba and Sullivan of the intern staff.

Dr. J. W. Cathcart presided.

Case 1. Dr. Crouch presented an American man aged 74 with a tumor mass the size of a lemon in the right submandibular region of 20 years duration. Diagnosis: Branchial cyst. Recommendation: Dissection of tumor.

Case 2. Presented by Dr. Crouch. A Mexican boy aged 11 years presented several dense masses in the mid-abdomen, one protruding to the left of the umbilicus. Two diagnoses were considered: hypernephroma and tuberculous adenitis. The skin tuberculin test, 1:500, was negative. Retrograde pyelogram and more complete study of urinary function were recommended. In view of NPN of 150 surgery not recommended at present.

Case 3. Presented by Dr. Goodloe. A Mexican girl aged 13 years presented adenopathy of 3 months duration in the axillae, groins and perirectal region. The glands were discrete. Tuberculosis was present in both lungs. An axillary gland was removed for biopsy. Diagnosis: Tuberculous adenopathy. Recommendation: General care for tuberculosis.

Case 4. Presented. by Dr. Powell. This patient, a 4-year-old Mexican boy, developed a mass in the lower abdomen 4 months ago, which has progres-

sively enlarged until the abdomen is very large and tense. The mass is nodular, and palpable on the right to almost the midline posteriorly. Diagnosis: Malignancy of right kidney. Recommendation: Palliative treatment. Too extensive for surgery.

SEVERE FRACTURES OF THE SHAFT OF THE TIBIA

(Continued from page 405)

x-rays are necessary to determine progress, because it is possible by too much pull to separate the fragments, a situation favorable to non-union. Such a patient is treated in a hospital where the frequent observation, necessary adjustment, and x-rays are available. The time period may be as long as six or seven weeks before a cast can be applied with safety.

The advocates of skeletal traction, and there are many, tend to think that the insertion of wires and pins into the bone is without risk if done under strict asepsis and careful sterile technique. It has been the author's experience to treat a large number of fractures with skeletal traction and to observe many others treated by capable surgeons. While statistics cannot be quoted at this time, the fact remains that a not-too-small number of infections occurred about the wires or pins; these infections were of all degrees of severity—from superficial skin infections to deeper infections that destroyed the bone locally, or even caused fatal septicemia. The insertion of pin or wire must be carried out with just as careful technique and consideration of tissues as a major operation.

During the past five years a variety of traction machines have been developed to reduce fractures. Pins or wires are passed through the proximal and distal parts of the tibia well away from the fracture site, and various forces are applied through these by adjusting the screw traction machine. With a badly displaced fracture, a good reduction may require considerable time, because repeated fluoroscopic or x-ray examinations, followed by corrective adjustments, may be necessary. The same danger of separation of fragments by too great a force exists, because great traction can be obtained by the machine. When the cast is applied about the pins, the fracture is securely fixed and the danger of slipping is eliminated. The patient can be allowed up with crutches at an early date, thus reducing hospitalization greatly, and enabling elderly patients to be gotten out of bed.

The operative reduction of fractures of the shaft of the tibia does not seem to be popular, if one can judge from textbooks and current literature. Perhaps the fad for applying metal plates and wires to fractures is responsible for this attitude; so many severe infections were associated, with damaging results, that the pendulum has swung well toward non-operative treatment. However, in carefully selected cases, with proper preparation and careful technique, the operative correction of fractures has much to offer. An exact reduction is possible; interposed periosteum, bone fragments, and soft tissue can be removed, thus eliminating important causes of non-union. And good fixation can be obtained without the use of metal plates, screws or wire. In this way union can be obtained in about three months, while other methods may achieve weight bearing only after six or more months—an important factor to the patient who must work for a living. Hospitalization is reduced considerably. In these days, a good x-ray result is important, as so many fracture cases form the basis of litigation in the courts; the layman often judges the result by the x-ray picture.

The author does not favor those methods in which beaded wires are inserted through the fracture site and left projecting through the skin; or the similar insertion of metal screws. These are attempts to immobilize the bone fragments by temporary metal fixation through the traumatized soft tissues. This would seem to open the door to infection through the most vulnerable tissues. Sometimes the removal of the metal piece requires re-opening of the wound under anesthesia. And one is not certain that the fragments will not be displaced following removal of the fixation device.

AUTHOR'S METHOD

A method for reducing and holding oblique, comminuted fractures of the tibia-fibula, which is not generally described, has been used by the author. The patient is placed on a fracture table, so that the pelvis is fixed. Under anesthesia, with careful preparation of the skin and full asepsis, a wire is inserted into the tibia well away from the fracture site and through normal tissues; the usual site is the anterior tibial tubercle. Another wire is inserted into the oscalcis. A clove hitch is applied about the ankle and strong traction made. A brief fluoroscopic examination in both anterior-posterior and lateral planes is made; if further correction is necessary, this is done by manipulation, the application of slings, or by more traction. In almost every recent case it is possible to obtain a good reduction. A tight-fitting cast is applied from toes to groin, with reinforcement about the wires. When the cast is quite hard, the traction is released, the clove hitch removed, and the wires cut flush; the cast is repaired. The patient remains in bed for a few days; an x-ray is taken to show the position of the fragments in the cast. If there is no contraindication, the patient may be up on crutches in a few days.

By this method, good reductions have been obtained and maintained in about 300 fractures treated or observed by the author. The procedure itself does not require a long anesthetic; the usual stay in the hospital after reduction is for a few days. The patient may start walking with crutches, thus permitting exercise of the muscles, and tending to avoid to a large extent the stiffness of joints so often seen. In the elderly patient recumbency is not necessary, and the danger of hypostatic pulmonary congestion is avoided. The possibility of

separation of fragments by excessive traction is practically eliminated. There are no complicated machines to purchase.

Where a choice of procedure is available, the treatment of any bad fracture requires evaluation not only of the condition of the bone and soft tissues, but of the patient as an individual—his general physical condition, his mental outlook, and his financial background.

First National Bank Bldg.

COMMUNICATIONS

Sir:

I am writing you regarding a man who is running around through the country buying glasses, especially from oculists, usually giving a check to the amount of $30.00. This man tries to simulate a farmer and he usually has a notation on the check for corn, cows, hogs, etc. The name on the check to him is no doubt forged, and there is no doubt his indorsement on the back of the check is forged. The man is about 5 feet 9 or 10 inches tall, weighs about 155 pounds, light sandy hair, blue eyes, smooth shaven with a ruddy complexion.

Should this man come into your office making an attempt to cash such a check as the above description, unless proven to be absolutely authentic, please notify the Sheriff of Nodaway County, Maryville, Mo., or the Sheriff of Grundy County, Trenton, Mo.

He usually signs his name on the back of the check in a very rough but plainly legible hand, and he usually wishes the difference between the amount of the check and the price of the glasses in cash, but does not call for the glasses. Should he sign his name and such a check be presented to you, please have the sheriff intercept him.

Should you have any information regarding a man of his description passing checks of the above description, please inform the sheriffs above named, Dr. R. C. Pearson, Maryville, Mo., or myself.

Thanking you, I am,

Very truly yours,
HERBERT C. KIMBERLIN, M. D.

NEWS

General

The officers of the United States Chapter of the International College of Surgeons invite all physicians and surgeons in good standing to their Fourth Assembly, to be held in Venice, Fla., February 11-14, 1940. There is no registration fee.

For general information please address Dr. Fred H. Albee, chairman, 57 West 57th Street. New York City. For information about the presentation of scientific papers or exhibits, query Dr. Charles H. Arnold, secretary of the Scientific Assembly, Terminal Building, Lincoln, Neb.

Dr. Frank R. Spencer, Boulder, Colo., was chosen president-elect of the American Academy of Ophthalmology and Otolaryngology at the annual session in Chicago October 8-13, 1939. He will succeed Dr. Frank E. Brawley, Chicago, when the latter becomes president of the Academy January 1. Dr. Spencer will become president January 1, 1941.

The Academy also decided to act as sponsor for a proposed Pan-American congress of ophthalmology and otolaryngology. South American physicians attending the meeting in Chicago will arrange for the attendance of delegates from their respective countries to such a congress to be held in connection with the next meeting of the Academy, it was said.

Other officers elected were Drs. Arthur W. Proetz, St. Louis, first vice-president; Joseph F. Duane, Peoria, Ill., second vice-president, and Charles T. Porter, Boston, third vice-president; Secord H. Large, Cleveland, comptroller, and William P. Wherry, Omaha, Neb., executive secretary, re-elected.

El Paso

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, November 7, 1939, at 12:10 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

Regional Ileitis ..... Dr. John Murphy
Discussion ..... Dr. Hardy and Dr. Gorman

A regular meeting of the Tumor Clinic was held Tuesday, November 14, 1939, at City-County Hospital, at 1 p. m. The program was as follows: 1. Hodgkin's disease. 2. Basal-cell of carcinoma of scalp. 3. Breast tumor. 4. Lymphadenitis (generalized). 5. Tumor of right hand.

The regular dinner and staff meeting of the Southwestern General Hospital was held Thursday, November 16, 1939, at 6:30 p. m. in the hospital auditorium. The program was as follows: Symposium on Chronic Gastritis and Gastroscopy. 1. Hypertrophic Gastritis, case report, Dr. E. J. Cummins. 2. Atrophic Gastritis, case report, Dr. W. W. Waite. Discussion and slides, Dr. N. Giere.

A regular meeting of the El Paso County Medical Society was held November 27, 1939, in the tea room of Hotel Cortez, at 8:00 p. m. The scientific program was as follows: "Tuberculosis Control," Dr. James W. Laws. "Oral Surgery—(a) Removal of Cysts, (b) Splints for Fractured Jaw," O. J. Shaffer, D.D.S.

Dr. Herbert E. Stevenson, age 68, died November 2, 1939, in his home in El Paso after several months' illness.

Dr. Stevenson graduated from Rush Medical Col-

lege, Chicago, in 1899. Shortly thereafter he returned to El Paso, where he began the private practice of medicine. Dr. Stevenson's first war service occurred before he had finished his schooling. While still a student at Rush he enlisted for the Spanish-American War. Dr. Stevenson also saw service along the Mexican border as a major in the Texas National Guard in 1916, when General Pershing's Punitive Expedition was in Mexico hunting Villa. During the World War, Dr. Stevenson was the commanding colonel of the 111th Ammunition Train, 36th Division.

Except for his periods of military service, Dr. Stevenson devoted his time after graduation from college exclusively to his medical practice in El Paso. In later years he was in partnership with his son.

Dr. Stevenson was a member in good standing of the El Paso County Medical Society, the Southwestern Medical Association, the Texas State Medical Association, and the American Medical Association.

Survivors include the widow, Mrs. Florence Vilas Stevenson; a daughter, Mrs. F. W. Warren, Jr.; a son, Dr. Walter H. Stevenson, all of El Paso.

. A regular meeting of the Tumor Clinic was held Tuesday, November 28, 1939, at 1:00 p. m., at City-County Hospital. The program was as follows: 1. Pituitary tumor. 2. Epithelioma of scalp. 3. Ovarian tumor.

MISCELLANY

GHOULISH

Few physicians rise to the heavenly realms above if we are to believe the inscription on a tombstone at Hoosick Falls, N. Y., which was discovered not long ago by Dr. Edward F. Timmins, of South Boston. This rather saddening assertion, if true, is the final line, the sting in the tail, as it were, of a story of the old-time custom of "body-snatching," or "resurrecting," as practiced years ago.

The beneficient side of the custom was that the very bodies of those who had succumbed to the Grim Reaper were used in the medical schools to train the young doctors to defeat him in other battles, surely a poetic and priceless revenge that put a nick in his sickle. But the loving relatives refused to see it in that light, and resorted to the courts, and sometimes even to mob violence.

In this case the parents tried to get even by "telling the world" in bitter language graven in stone. The grave "is in a prominent location mighty near the entrance gate of the cemetery," writes Dr. Timmins, and can easily be found by any interested members of the profession who may at any time be in the vicinity of Hoosick Falls, which is in the northern Rensselaer County near the Vermont border. Dr. Timmins was so intrigued that he snapped a picture of it. The inscription reads:

RUTH SPRAGUE.
dau. of Gibson
& Elizabeth Sprague,
died Jan. 11, 1846; aged
9 years 4 mo's & 3 days.

She was stolen from the grave
by Roderick R. Clow & dissected
at Dr. P. M. Armstrong's office
in Hoosick N. Y. from which place
her mutilated remains were obtained & deposited here.

Her body dissected by fiendish Men
Her bones anatomised,
Her soul we trust has risen to God,
Where few Physicians rise.

"We hope that there is less truth than poetry in the last line," remarks Dr. Timmins, in the *New England Journal of Medicine*, to which he sent the photograph and description.

—*N. Y. State J. M.*

NEXT?

A news dispatch from San Francisco dated July 10 quotes U. S. Solicitor General Robert H. Jackson as saying to the American Bar Association convention that lawyers must arrange a cut-rate service for wage earners or risk governmental control of their profession. "Our bar," Mr. Jackson is quoted as saying, "cannot claim to be discharging its full duty to society by rendering service that is out of reach of an increasing proportion of our people." He is reported as declaring that the high cost of legal services might cause the government to intervene, saying that "something like this has happened to the medical profession."

Mr. Jackson said that the very poor get legal services through public agencies and that the well-to-do can hire good lawyers; "but there are millions of people who belong to neither the well-to-do nor the very poor. Their scale of earning will not let them pay so much for legal services as the modern lawyer charges.

"Their need is not a charity agency but a low-cost legal service.

"I have grave doubts that society will continue to support idle lawyers (on the WPA) and at the same time go without their service once it wakes up to what it is doing." He declared that the American Bar Association could "if its professional organization were strong enough and so willed, organize within the profession itself prvately managed, but self-sustaining, low-cost, high-volume legal services.

"In default of our attention, this problem will be likely to be forced upon the government."

Such utterances have a strangely familiar ring to the physician. Needless to say, they occasion no surprise, because it was clear to many physicians that "something like this" would confront other professions.

Next?

—*Med. Ann., D. of C.*

RECKLESS SURGERY?

There are Aunty Dolefuls in every community who love to shudder as they pass a hospital and let drop mysterious hints of the unnecessary "cutting" that goes on behind its doors. A close examination of the surgical statistics of any important hospital dissipates such ideas, observes the New York *Medical Week*.

In one city hospital alone, 117 patients who were admitted last year with surgical diseases were treated nonoperatively when follow-up studies failed to confirm the diagnosis. Another 68 patients with surgical conditions were treated conservatively in the hope of effecting cures without operation. These are just one year's figures in one institution. Undoubtedly many other hospitals can produce similar statistics.

Doctors do not operate just for fun or fees. Even if a few were inclined to do so, they would be restrained by the fact that almost all hospitals require pathologic examination of tissue removed at operation. Staff conferences are quick to inquire into the activities of a surgeoon with too many normal specimens on his record.

It would be interesting to assemble the surgical statistics of a group of hospitals and compare the percentages of nonsurgical cases admitted with surgical diagnoses and surgical conditions treated without operative intervention. Comparative statistics of this type might help to improve admission diagnoses and increase the number of surgical conditions treated successfully by nonoperative methods.

—*N. Y. St. J. M.*

MALE SEX HORMONE

It may be interesting to review from the literature the reported observations in some two hundred cases following the use of testosterone propionate:

1. Increased libido.
2. Increase in vitality and a great lessening of the fatigue syndrome.
3. Increase in the size of the phallus, scrotum and seminal vesicles within the limits of the normal variation.
4. Increase of hair on the pubis, axillae, extremities and beard development.
5. Lower voice in cases where the voice was high-pitched and effeminate.
6. Definite psychological changes. Patients become less bashful, develop an optimistic outlook with increased self confidence and other masculine traits.
7. A gain in weight in almost all reports. Some cases reported as much as from thirty to forty pounds gain in from six months to a year. This occurred especially in the underweight patient with eunuchoid type of hypogonadism.
8. Definite changes in the skin. The skin became oily, there was an increase in sebaceous secretion and many clinicians are reporting the development of acne vulgaris. This observation may be valuable in the future in explaining the development of acne near the ages of puberty in boys and girls.

—*J. Missouri M. A.*

SULFANILAMIDE

Diseases in which sulfanilamide has a proved value:

1. Streptococcic infections.
2. Meningococcic infections.
3. Gonococcic infections.
4. Urinary tract infections due to B. coli, B. influenzae, B. proteus, Staphylocccus aureus.
5. Pneumococcic meningitis.
6. Experimental malaria.

Diseases in which sulfanilamide is of suggestive value (experience too limited or results not conclusive):

1. Undulant fever.
2. Pylephlebitis suppurativa.
3. Trachoma.
4. Lymphogranuloma inguinale.
5. Chancroid.
6. Actinomycosis.
7. Typhoid fever and paratyphoid fever.

Diseases in which sulfanilamide is ineffective:

1. Subacute bacterial endocarditis.
2. Staphylococcic infections.
3. Rheumatic fever.
4. Influencing the rash of scarlet fever.
5. Preventing a recrudescence of rheumatic fever following hemolytic streptococcic infection.
6. Sterilizing local foci of hemolytic streptococcic infection.

Diseases in which sulfanilamide has been used prophylactically:

1. Preventing hemolytic streptococcic infection in rheumatic subjects, and in pregnant women who are about to go into labor.

—*Cal. and West. Med.*

RADIO BALLYHOO

Tooth pastes and powders, cathartics, anti-acids, cosmetics and patent medicines continue to interrupt our radio musical programs and irritate us as we are listening to the latest transradio news. How long will the American public be so gullible? Just as long as there is money to be made by this kind of propaganda and the radio public will put up with the jarring jargon of these jerry-builders.

Radio advertising was given considerable prominence on the program of the conference of the Association of Food and Drug Officials of the United States recently convened at Hartford. It was advocated that radio advertising copy be filed and subjected to the close scrutiny of food and drug officials on the same basis as newspaper and magazine advertising? Why not? The detrimental effect of radio in broadcasting misleading information is in direct violation of the Food, Drug and Cosmetic Act. As Dr. George R. Cogwill of Yale University said, the general impression given in radio advertising is usually erroneous and if the claims of radio advertisements were included in

the written advertisements or on labels, they would be immediately considered a violation of laws.

Our neighbor, Canada, does not allow its radio audience to be duped and bored with all this ballyhoo. Are we in the United States of any less intelligence? It would be a boon to our nerves and a solace to the various parts of our anatomy to which the appeals are directed if the food and drug administrators would adopt a policy similar to that used by the Council on Pharmacy and Chemistry of the American Medical Association whereby data on food and drug products are collected and reported to the public. Surely all claims amenable to scientific tests, chemical or biological or both, should be supported by the appropriate tests.

—Jo. Conn. St. Med. Soc.

THE WAR

The most interesting thing in the world today is the European War.

What the United States may do is of the utmost importance to us.

We are neutral, but as President Roosevelt has well said, we cannot, and will not, refuse to recognize facts.

On one side we cannot help seeing regimes characterized by bloody purges of political opponents; by broken promises and agreements; by heartless persecution of innocent people on the idiotic ground of racial difference; by an apparent reversion to barbarism, combined with modern scientific methods of destruction; and by a ruthless determination to dominate regardless of means or costs.

On the other side we see England and France.

It is true they have not paid what they owe us, but they have not shot the opposition members of Parliament, or confiscated the property of helpless groups of their own citizens; and they still believe in free thought, free speech, a free press; and they have been good neighbors of ours.

They have some regard for their words and agreements.

They had to fight or submit to force.

Our sympathies and our interests are on the side of England and France.

The American people never were for peace at any price.

War is Hell—but there are things worse than war.

Perhaps one of them is to keep ourselves aloof while others fight and die for things we believe in.

—Geo. L. Pratt: Jour. Maine Med. Assoc.

PHYSICAL THERAPY

The medical profession has succeeded in giving form and substance to education in physical therapy. It has been a long, hard fight, and the job is not finished. The future is bright and as time goes on, I am sure we shall see even greater improvement in professional education and in the training of technicians.

The medical profession has always been able to outline its own policies and decide what is best for the patient. Physical therapy must be kept free from schemes to make it a layman's specialty in the practice of medicine. The surface plausibility has appealed to legislators and already there is licensure of technicians in several states, thus placing responsibility in a position where it cannot be assumed by virtue of training, and ultimately encouraging independent and unsupervised practice.

What the future of physical therapy will be is a matter of great concern. Certainly it is the American Medical Association and the American Congress of Physical Therapy, rather than political units, smaller groups or individuals, which will be responsible and authoritative center for further progressive changes relating to the education of physicians and technicians.

Finally, I should like to emphasize the following points:

1. Premedical courses in physics and biology should be better adapted to physical medicine.
2. Medical schools should continue the splendid progress already made in the provision of instruction in physical therapy for undergraduates.
3. Wherever possible, hospitals should assign internes and residents service in physical therapy departments.
4. Additional residencies, fellowships and graduate opportunities might well be established.
5. More acceptable schools for physical therapy technicians are needed.
6. The search for a solution to the present shortage of qualified technicians should be guarded to obviate lowering of standards.
7. Licensure of technicians should be opposed as detrimental to the best interests of the patient.

—Arch. Phys. Therap.

OSLER

The name of William Osler—a Canadian by birth—is so enshrined in the history of American medicine that it does not detract from his fame to say that he did not discover any important disease. He had, however, the more valuable gift of seizing the right moment to publish his personal observations on diseases recently described, usually in a less perfect way by others. Thus his name is attached to polycythemia vera, the first description of which was given by Vaquez. Osler himself refused to take credit for the discovery of this disease although his comment on it brought it to the attention of the medical world. Other classic articles on established diseases are those on cerebral palsies in children, on endocarditis and on angina pectoris. There is, however, one condition which Osler was the first to observe, that might be called Osler's disease; yet it is not a clearly defined entity. I refer to what he called the visceral manifestations of erythema exudativum. Erythema exudativum or nodosum had long been known, but it was Osler who called attention to the visceral complications of the disease and to its marked tendency to recur.

—Shattuck Lecture, N. E. J. Med., Vol. 219, No.16.

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

1. *The establishment of an agency of federal government under which shall be co-ordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.*

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus and federal agencies. Thus, the United States Public Health Service is in the Federal Security Department; the Maternal and Child Welfare Bureaus in the Department of Labor; the Food and Drugs administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875, the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication, and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

2. *The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.*

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least $1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease, and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be made available for health purposes; that these funds be administered by the federal health agency mentioned in the first plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency when that need be for the prevention of disease, for the promotion of health or for the care of the sick.

3. *The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.*

Obviously, if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might be a lessened tendency in many communities to devote the community's funds for the purpose, and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. *The development of a mechanism for meeting the needs of, expansion of preventive medical services with local determination of needs and local control of administration.*

The medical profession is not static. It wishes to extend preventive medical service to all of the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans, but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation such mechanism may be suitably outlined.

5. *The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.*

The medical profession does not yield to any other group in this country in its desire to extend medical care to all of those unable to provide themselves with medical care. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities, but not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully familiar with the circumstances can determine the number of people who come properly under such classification and that only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community, but that local funds to be first utilized and that local agencies determine the nature of the need and con-

trol the expenditure of such funds as may be developed either in the community or by the federal government.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only 13 counties more than 30 miles removed from a suitable hospital, and that in 8 of those 13 counties there are 5 people per square mile. In the United States today the percentage of hospital beds per 1,000 of population is higher than that of any other country in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years, whereas considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA and by the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed or as to the possible efficient functioning once it was erected. Moreover, there is evidence that in recent years many of the hospitals of the United States known as nonprofit voluntary hospitals have had a considerable lack of occupancy due no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again, it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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of medical services and to increase their availability.

In the United States today our sickness and death rates are lower than those of any country in the world. This fact was recognized by the President of the United States when he sent the National Health Program to the Congress for careful study. The President emphasized that a low death rate may not mean much to a man who happens to be dying at the time of tuberculosis. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time, it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials would in any way lower sickness and death rates.

There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live, and that others, surrounded by good facilities, do not have the funds available to secure services. Obviously here again, there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved prepayment plans to cover the costs of hospitalization and also repayment plans on a cash-indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has lead to higher standards of medical practice and of medical service than are elsewhere available, and that the maintenance of the quality of the service is fundamental in any health program.

8. Expansion of public health and medical services consistent with the American system of democracy.

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to

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obtain a little temporary safety deserve neither liberty nor safety."

In these times when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered to changing the nature of medical service are not in effect the first step toward an abandonment of the self-reliance, free will and personal responsibility that must be the basis of a democratic system of government.

BOOK NOTES

CANCER OF THE LARYNX: By Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Honorary Professor of Broncho-Esophagology and Consultant in Broncho-Esophagologic Research, Temple University Medical School, Philadelphia; and Chevalier L Jackson, A.B., M.D., M.Sc. (Med)., F.A.C.S. Professor of Broncho-Esophagology, Temple University Medical School, Philadelphia. 309 pages, with 189 illustrations on 116 figures, and 5 plates in colors, containing 50 illustrations. Philadelphia and London W. B. Saunders Company, 1939. Cloth, $8.00.

A great deal is known about cancer of the larynx. Likewise there is much that is not known. Until our sum of knowledge regarding this subject is greatly increased, this book must remain the voice of authority. As is characteristic of any work done by the Jacksons, this book is thorough. There is a helpful division of the book into three parts, viz., procedures, general considerations, historical notes. The illustrations are beautiful in accurate detail, particularly those in full color. Operative procedures are given in detail together with postoperative care. There is a fine consideration of radiation procedures as well as surgical. The historical notes are absorbing. There is a detailed bibliography on the topic of cancer of the larynx. The book is to be highly recommended with the observation that none but a master could have done such a fine piece of work.—*M. P. S.*

SURGERY OF THE EYE: By Meyer Wiener, M.D., Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri; and Bennett Y. Alvis, M.D., Assistant Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Mo. 445 pages with 396 illustrations. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, $8.50 net.

It is seldom indeed that a textbook makes exciting reading. To open this book is to surrender one's self to complete absorption. The clarity of its explanations, the instructive illustrations together make its reading one of the most enjoyable experiences in a number of years of study. There is something on every page of practical value. The authors have approached their subject with the idea of being helpful. This they have done, in a remarkable manner. With a beautiful command of English and a clear style of exposition the authors have truly set up a pattern for other scien-

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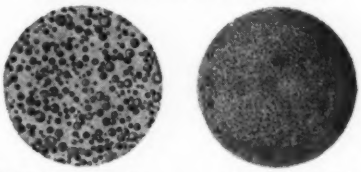

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tific writings. We have often felt that any scientific topic need not be boring, should rather be almost exciting, even to its practitioners. The authors have taken a difficult subject and made it rather easy to comprehend by their masterful shaping.

This is one of the few textbooks that if necessary we would pay many times its regular price to obtain for our library. Any surgeon practicing ophthalmology must surely feel likewise after just a few moments reading in this book. Together with the dictionary and the anatomy this book would appear to us to be an absolute necessity to any eye surgeon.—*M. P. S.*

DISEASES OF THE SKIN, by Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S., (Edin.). Professor of Dermatology, University of Kansas, School of Medicine; and Richard L. Sutton, Jr., A.M., M.D., L.R.C.P. (Edin.), Associate in Dermatology, University of Kansas, School of Medicine. Pp. 1549 including index. 1452 text illustrations and 21 color plates. Cloth. 10th Edition. $15.00, St. Louis, The C. V. Mosby Co., 1939.

This reviewer enthusiastically recommends this book to dermatologists and all others who are interested in bringing their knowledge of dermatology up to date. It is unquestionably one of the most comprehensive one-volume works on dermatology which has been published. A book of 1,559 pages, it is more complete than the average text on dermatology. There are 1,452 illustrations. Both the clinical photographs and the photomicrographs are of excellent quality, and add to the practical value of the book. There are 144 pages devoted to fungous diseases, including a chapter on the identification of fungi by Lewis and Hopper. Ninety-five pages are devoted to syphilis. The bibliographies are rather extensive and should be useful for those who wish to study more deeply any dermatologic subject.—*L. M. S.*

DEAD MAN'S SHOES, by Evelyn Cameron. Pp. 275. Cloth. $2.00. Published for The Crime Club, Inc., by Doubleday, Doran & Co., Inc., New York, 1939.

Lovely young women, such as the one who wrote this mystery tale, by their very nature can scarcely hope to outdo Edgar Allen Poe. However, no one, male or female, has yet succeeded in clothing himself in this master's toga. So that mystery tales today must be gauged not with the measuring stick of literature, but rather for their value as simple entertainment for an hour or two.

This book lightly and neatly does a good job of entertaining. There are murders, thunderstorms, eerie monkey-business under the cloak of night. A bit of a romance flurries in a sophisticated atmosphere, omitting passionate grunts and breast heavings under mulberry bushes. In other words, no hot interludes interrupt the flow of blood and mystery. A sage old desert-rat sheriff does as slick a job in solving the mystery as ever did Philo Vance.

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Index To Advertisers

Bank, Joseph II
Borah, Chas. E. II

Clohessy, T. T. II
Cutter Laboratories ..... Cover 4

Dorsey-Burke Drug Store IV

Gatterdam, E. A. II

Holmes, Fred G., Randolph, Victor, and Randolph, Howell II
Homan, Ralph H. III
Hynson, Wescott & Donning 389

Jordan, Gerald H. III

Las Encinas Sanatarium V
Lilly & Company, Eli X
Los Angeles Tumor Institute IV
Lovelace Clinic II
Lynch, K. D. III

Mason-Miller Drug Co. IV
Mead Johnson Company IX
Medigovich, D. V. II
Merck & Co., Inc. 419
Philip Morris & Co. VI
Multhauf, A. William III
Myers, John W. II

Nestle's Milk Products, Inc. 421

Owens, Hala, Sanitarium III

Pathological Laboratory ..... Cover 1
Pathological Laboratory II
Parke, Davis & Company VIII
Petrolagar ..... Cover 2
Physicians' Casualty Association 423
Purcell, H. M. II

Rosenbaum, M. G. II

Safford, Henry T. III
S. M. A. Corp. ..... Cover 3
Smith, Leslie M., Hughes, Raymond P. III
Smith, Kline & French Labos. VII
Southwestern Surgical Supply Co. 422
Specialists in the Southwest ..... II, III

Turner's Clinical & X-ray Laboratories 420
Taylor Printing Co. 423

Upjohn Co., The 1

Vance, James III
Vandevere, W. E., Spearman, M. P. III

Wayland Prescription Pharmacy IV
Werley, G. III
Womack Clinic II
Woodcroft Hospital III
Wyeth & Bro., John 418